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11th January 1998

Dear John,

B.C.D. History

I have a few qualms of conscience in that I have never really acknowledged your letter dated 19th October 1995 which offered assistance in getting the full history printed. Over the 10 years of its "gestation" I remained determined that it would appear, presented in reasonable form ultimately, and in this case persistence did pay!

I was more than a little apprehensive at trying to work at long distance had I taken up your very kind offer. You may have better appreciation of this now you have seen the full set of 3 volumes.

My opportunity came when Sandy Craig asked if I had any suggestions for marking the 75th anniversary of the first planting at Thetford. The outcome was that he agreed to F.E. funding the binding of a limited number of copies on condition that I supervised/produced all of the copy. It proved to be a mammoth task having produced, checked and compiled all the copy for 20 volumes myself once the York office had transcribed the original discs and any local computer operator/typist had worked long and hard to produce the final presentation for Volume I.

Having checked with great care I still find a small

omission from the Contents section in Volume I. It is item 17 which lists the distribution of copies.

I enclose a slip which can be pasted in the space at the bottom of the page below app. 12d at the end of item 16 which lists all the appendices. As so few copies have been produced I thought it worth recording where they all are. Sandy had already delivered your 3 volumes before the omission was discovered.

Nick Dinning, who instructed me to write the history, currently has my copy to read so I am delighted and more than a little relieved to be able to say "Project Completed".

It will never be a "Best Seller" but the record is there should anyone wish to refer to it either now or in the future.

Finally, the full text of Volume I is held on disc in the Santon Downham Office and the original plate pages are held in the archive at Santon Downham as are all the working papers and original documents.

Many thanks once again for your interest and offer of assistance, at least it gave me hope at a fairly crucial point in a long haul over 10 years!

Yours sincerely

Barry Griggs

17. DISTRIBUTION 1997

Six complete sets of all 3 volumes are to be produced and distributed as follows:

1. Forestry Commission Library, Alice Holt Research Station
2. Norfolk County Library
1. Suffolk County Library
1. East Anglian Forst District office, Santon Downham
1. The author B Griggs

A further 2 copies of Volume I only are to be produced for loan to interested staff and others past and present. These to be available at the East Anglian Forest District Office at Santon Downham.

THE HISTORY OF

BRANDON CENTRAL DEPOT

B GRIGGS

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A HISTORY OF BRANDON CENTRAL DEPOT

1946-1988

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1. INTRODUCTION

In 1946 with the war just over and a shortage of roundwood for pitprops from homegrown sources created by the very necessary exploitation of woods and forests during the war, the extensive areas of pine planted in Brecklands Thetford Forest were rapidly coming into thinning, providing considerable volumes of small roundwood well suited to pitprop production.

Thinning was by Forestry Commission staff but small conversion depots already existed on sites at Swaffham Heath, Drymere, Didlington, Brandon and Culford. These sites were established by the Timber Production Department (TPD) of the Ministry of Supply to process poles produced mainly from private woods during and after the war up to 1947.

Once thinning of Forestry Commission plantations got under way in 1945 these small conversion sites were shared with FC employees, who produced stakes and rails from unpeeled poles (butt diameter <4 ") working alongside TPD staff, many of whom had been seconded from the Forestry Commission. TPD produced pitprops from larger poles (butt diameter >4 ") which had been hand peeled usually in the forest. Bent firewood poles were sold direct from the forest.

A decision was taken in 1946 to establish a central depot on an area of open heath adjacent to the railway station and sidings at Brandon, already the site of one of the original small TPD depots. It was to be known as Brandon Central Depot or more familiarly BCD, or The Dump as it was known to generations of local people.

English coal mines in the midlands and north east traditionally used peeled and seasoned pitprops, much of it imported and it was to this market that Depot production was to be principally geared.

In these early days the operation was almost entirely manual with the only mechanical assistance provided by liner saw benches and a crane to offload lorries hand loaded with poles in the forest.

From this early beginning when the total production from the forest was processed at the Depot, the range of products increased as tree size increased and wood using industries developed and varied their requirements, but round mining timber (pitprops and splits) remained the principal product while markets were developed for waste products, particularly bark in later years.

The number of men employed rapidly rose to around 100 by 1950 with increasing annual throughput. Harvesting techniques developed with experience and hand peeling of poles in the forest rather than in the Depot became common practice early in the 1950s. This together with the rapidly increasing volume to be thinned resulted in a movement of men from the Depot to the forest leaving some 50 to 60 men still working in the Depot.

The total production from the forest continued to be processed at the Depot until the advent of chainsaws in the mid 1960s made efficient conversion of bent poles to pulp and chipboard short lengths at rideside in the forest possible.

Very little mechanisation took place in the Depot until the early 1970s apart from chainsaw conversion for larger poles and mechanised pole length peeling which started in 1963.

From the end of the war with increasing homegrown supplies of pitwood available, imports were being reduced until in the late 1970s a positive programme of import substitution by homegrown was instituted by the National Coal Board.

Dryness and consequential lightness was the crucial factor in persuading colliery managers and miners to move to homegrown and Brandon pitprops were considered the best available for this purpose. At the same time with increasing volume and tree size the forest was able to develop a sawlog market not involving the Depot and wood using industries were established providing new outlets for the rougher small roundwood in short lengths for pulp and chipboard also direct from the forest. As a result, by 1970, approximately one third only of all the volume harvested in Thetford was supplied to Brandon Depot in straight small to medium size poles which admirably suited Depot products at that time i.e. pitprops, splits, woodwool billets, posts, stakes and rails.

In March 1970 Graham Hobbs was appointed Manager for 3 years by which time, he was told, the Depot would be closed.

During the 3 years he became very conscious of the importance of Brandon Depot to the National Coal Board and also saw the potential for mechanisation created by improvements in handling made possible by the arrival of Volvo Front End Loaders. As a result he set about mechanising many of the manual operations and reducing much of the very heavy lifting involved previously.

These developments were very much a local staff effort involving no long term planning and no allocation of resources. Many "new" pieces of equipment were obtained in part exchange for a load of firewood.

In a later report local staff were rightly commended for their efforts and initiative which had resulted in very significant improvements in output, working conditions and safety.

Throughout the first twenty years particularly, the income generated by the operations at Brandon Depot represented a very significant proportion of the total Forestry Commission income nationally.

In 1976 Brian Holtam, Conservator East England, commissioned an investigation by Work Study Branch into the future of Brandon Depot believing it should be redeveloped on a planned basis or closed because it could not continue to "grow like topsy in the haphazard manner of the past".

Investigations and reports continued for 3 years to 1979 when firm proposals put finally to Treasury were approved on the basis of market predictions principally for pitwood to the National Coal Board and also for woodwool and fencing.

Redevelopment involving expenditure of £740,000 took 3 years to complete.

In the autumn of 1983 with the redevelopment only just complete the miners embarked on an overtime ban which developed into a national strike in March 1984 and lasted a full year.

With the return to work in April 1985 a programme of rationalisation resulted in numerous pit closures particularly among older pits where round mining timber was mainly used, pit amalgamations, increased mechanisation and modernisation and dramatic staff reductions, all took place very rapidly. With equal rapidity the demand for round mining timber tumbled and the prices obtained for unpeeled sawlogs at rideside became increasingly competitive with the price obtained for Depot products to the point when in December 1986 the Commissioner Operations, David Foot, appointed a Working Party to investigate the future of Brandon Depot.

The Working Party report was presented in June 1987 recommending closure. This recommendation was finally accepted by the Commissioners in November 1987 and the closure announcement made public on 16 November 1987.

Run down took until the end of February 1988 when all production ceased and all staff finally left, the majority having been retired or made redundant.

Stocks were finally cleared by the end of September 1988 by which time most of the plant and equipment had been sold and arrangements were in hand to sell the site, marking the end of 42 years as a roundwood conversion depot unique in both scale and product range.

The unique nature of the operation developed over so many years led the Conservator at the time, Malcolm (Mick) Dinning, who had been closely involved with the Depot and its development over many years, to commission this history as a permanent record for both general and technical interest.

Acknowledgements

To research the events of 42 years has been a major task made very much easier and pleasurable by the co-operation, interest and generosity with their time shown by numerous past and present Forestry Commission employees and others who have offered and provided most of the information recorded here.

A great many Forest Workers, Clerks, Foresters, District and Divisional Officers, Assistant Conservators, Conservators and Directors have been involved at some time in their career and this is their story which spans the greater part of the life of the Forestry Commission itself.

I thank all those who have assisted in any way for their patience and their time but perhaps most of all for the pleasure of a good "mardle" about times past.

B Griggs
December 1990

Postscript

Further to my original acknowledgments made in para 1 I wish to record here my appreciation and grateful thanks to Mrs Cole, Typing Manager in the East England Conservancy Office, and her staff, who translated my original handwritten first draft into a very presentable and accurate typescript which they have subsequently corrected and amended with equal patience and skill through the wonders of a word processor.

Also to Mr Norman Dannatt, one time Work Study Officer, later Assistant Conservator Operations and finally Conservator, now retired, for his great care in reading the final draft typescript and for his very helpful suggestions, comment and corrections, much of it based on his specialist experience.

Finally, to my wife Joan for her forebearance during the many hours spent, mostly at home, researching, writing, correcting and amending.

I trust the finished product, in whatever form, will be worthy of their efforts and forebearance.

Equally my very grateful thanks are due to many Forestry Commission staff who have assisted in progressing this work towards a satisfactory conclusion, not least Crispin Thorn and particularly Maureen Sherman for her patience and skill and for making the time to produce the finished proof copy of the Volume I text for copying and binding.

Finally to Sandy Greig, Forest District Manager at Santon Downham, whose agreement and support to my suggestion, that the production of a number of bound copies might be a fit way to mark the 75th anniversary of the first planting in Thetford Forest, provided the final push.

B Griggs
9 February 1992

2. THE SITE

2.1 Pre Depot

The Forestry Commission purchased the site from J J Calder and others on 9 April 1926 as part of a larger conveyance. It appears always to have been an open sandy heath typical of Breckland with a well developed podsol over much of the area. A wet valley ran from an area of springs in the northern end of plot G (ref App 2.a.) which was known to flood creating a pond at times big enough to skate on in hard weather.

This part of the site is also reputed to be the site of the burial ground to St Mary and St Thomas a Becket's Priory shown in block H.

Bromehill Farm later converted into two cottages contained within its walls carved stones dating from the eighteenth century and thought to have been part of the Priory building.

When the cottages were demolished in 1983 these stones were deposited in Norwich Castle Museum at the request of the Norfolk Archaeological Unit.

Before the 1939-45 war the whole of the area east of the centre track was either part of the farm or later split between the two cottages as small holdings which situation persisted until 1955. Plot B contained a large sandpit at its eastern end which was filled in and levelled by the army early in the war for use as a training area. also prior to 1939 the tenant of Woodhouse, the bungalow situated in plot L, a Mr Grant, ran ducks and chickens on plot C where at one time a tobacco drying shed stood. Tobacco was grown as a crop on a small scale in the Brandon area in the 1930s apparently.

It would seem likely that with the establishment of the Stanford Battle Training Area in 1942 this site was no longer of use to the army and as the Timber Production Department, by then under the control of the Ministry of Supply, was already producing pitwood from thinnings on private estates in the area it is likely that a small depot was set up on plot B almost as soon as the army left.

The use as a depot by TPD was contained within plot B right up to 1946 when the Forestry Commission made its decision to centralise its conversion and processing of thinnings on this site. John Deacon, who still works for the Forestry Commission, having started work at the Depot in 1947, lived in Redbrick Cottages from 1936 to 1950 and therefore knew the site well. He remembers the TPD depot with mainly women working on the site as members of the Womens Timber Corps using bowsaws to produce pitwood and stakes. They also used small bogies on narrow gauge rails to transport products around the site and it is said there was a creosote dipping tank on site for stakes.

During the war a railway siding known locally as the Yankee Siding was built to service equipment including bombs brought by rail from the docks to the various American air bases nearby at Mildenhall, Lakenheath and Feltwell.

The transport cafe adjacent to the Depot did not exist, nor did the house and that area together with part of plot J was used to park lorries to be loaded from the trains on the Yankee Siding. The site combined with ideal rail facilities adjacent, centrally situated within the forest, made this the ideal site on which to centralise the Commission's conversion and processing operations.

2.2 The Original Site

From 1946 to 1950 the FC operation was contained within plot B with the possibility that some stacking of products extended to the other side of the central track into plot C.

2.3 Extensions

During the period 1950 to 1955, as the volume handled increased, more space was required and gradually the whole of plot C was utilised but the eastern half remained as smallholdings rented out to the occupants of Bromehill Cottages who were FC employees. Towards the end of this period bark peelings were becoming an embarrassment and by arrangement with the tenant holding the area including the pond, bark was dumped into the pond and main ditch.

In 1955 Stan Cator the tenant living in one of the Bromehill Cottages who had by far the largest of the two holdings, which together amounted to all of plots D and F west of the dotted lines with all of plots G and H, relinquished his tenancy and moved into Brandon.

In the past parts of the holdings had been cropped regularly but by 1955 most had fallen into disuse and on Stan Cator's departure the land was taken in hand again leaving just the two garden plots with the cottages. The main ditch was still open for most of its length with wet boggy areas on either side particularly at the southern end.

During the period 1955 to 1970 increasing volumes of bark were dumped throughout plots F and G with the greatest concentration at the northern end of G where the pond had been.

Accumulations of rubbish brought in on the lorries bringing the poles in from the forest together with sawdust and bark were a continuing problem creating a quagmire in winter and a dust bowl in the summer.

As more space became necessary the narrow strip north of plot C was felled, possibly 1969/70 to make space for increased stake production with the closure of the creosote plant at Santon Downham.

By 1970 the area east of the blue dotted line had been felled to give added stacking space for poles and woodwool but plots F and G were still only used as dumping grounds.

Plot E - In the earlier days one man, Harry Gathercole, spent the major part of his time burning bark, or attempting to, in a metal kiln designed for charcoal production. Evidently the operation was very slow and as the main operational site extended eastwards the resulting smoke became unbearable and the process was stopped.

In 1963 Valentine Wood Ltd came onto this site to produce charcoal from Depot offcuts and remained there until 1971 when again the smoke generated caused their operation to be moved further east between compartment S.61 and the railway on FR 21 where it remains to this day.

From 1971 the site was used to stack woodwool until specific sites for woodwool were prepared as part of the redevelopment. From that time to closure in 1988 the area served as an overflow stacking area for peeled poles.

Finally M I Edwards (Engineers) were granted temporary permission to store bark sweepings from the peeler complex purchased by them and also joinery offcuts purchased for their chipping operation.

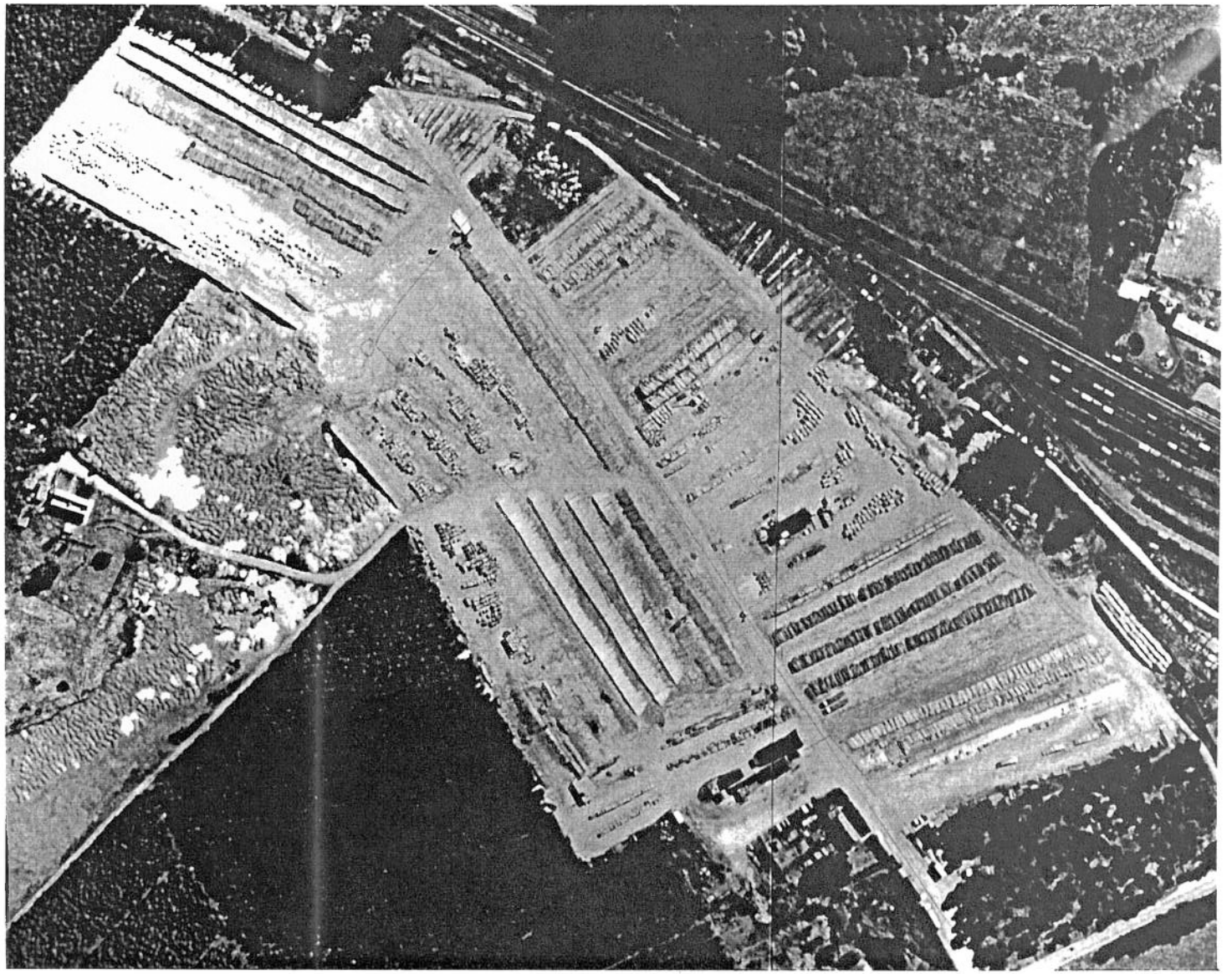


Plate 1 Aerial view of site 1971. Note mobile Cambio peeler top left of centre road making a start on a new drift of unpeeled poles. Also Broomhill Cottages mid left surrounded by dumped bark and sawdust.

No further extension of the main site occurred until increasing demands for space necessitated felling the block east of the yellow dotted line in plot F, probably some time after 1975/76.

In 1980/81 the new ring road and peeler complex were built as part of the redevelopment, the overall intention being to contain operations within the area bounded by the ring road.

The two areas making up plot K were planted up with a Birch, Oak, Rowan, Corsican Pine mixture as the first stage in a landscape plan included in the redevelopment plan. The landscape plan was never completed.

Plot I is the site of the Clerkenwell building situated within Plot J leased to M I Edwards (Engineers) in 1983 for a period of 21 years. The area included in 1983 was added to subsequently in two further stages, the final addition being agreed in 1989.

Plot L on which a bungalow known as Woodhouse is situated was owned by the Forestry Commission but was finally sold in 1982.

A condition of the sale was that the purchaser must establish access direct onto the council road and this provision was combined with improvements to the Depot access providing better site lines. Telephone lines were ducted under the improved bell mouth which was adopted by the Highway Authority once completed to a standard acceptable to them.

Plot A contains mature Scots Pine planted in 1880. The area has been allowed to develop naturally at least for the last 20 to 30 years giving rise to a mixed broadleaved understorey and thick ground cover. A large pit in SW end acts as a soakaway to part of the Depot surface water drainage system. This area has been, and remains, an important feature in the landscape and is of very considerable conservation value. Crossbills are always to be seen, the presence of the water in the soakaway pit together with the mature Scots Pine being the obvious attraction. The presence of crossbills is well known and visitors come regularly from far afield to see them. Nightingales are also regular residents, a feature of the Depot site over many years apparently.

Once closure was complete and the whole site cleared of all but buildings by October 1988, it became of increasing botanical and wildlife interest. Breckland plants had flourished on the site because the nature of the operation with continual movement of the soil suited many plants. A thick ground cover of plants developed by the summer of 1989. See appendix 2.a.

The site had attracted various birds while in operation, wagtails were numerous, even feeding on the logs lying on the infeed deck going into the peeler. Nightjars had been known to nest and a swift nested on a spot light about 5ft from a circular saw in regular use. Little ringed plovers had passed through but two pairs nested successfully in 1988 and four pairs in 1989, a remarkable occurrence as there were only 250 breeding pairs nationwide.

Exploitation of the bark dumped over many years at the northern end of plot G started around 1978 and continued at least until early 1992 when the site still remained unsold. It was agreed with the Norfolk Archaeological Unit that great care would be taken excavating at the lower levels, this being the site of the Priory burial ground. No evidence was found and the area was backfilled with good quality fill material from various sites and sources as exploitation progressed.

2.4 Drainage

It appears likely that only one drainage ditch ever existed on the site. This ran south as an open ditch from the area of springs at the northern end of plot G to a culvert under the railway and on to the river. No surfacing or piped drainage was done for many years and the absence of drainage combined with the accumulation of sawdust bark and brash produced a quagmire in wet weather and a dust bowl in the summer.

The recollections of all who worked at the Depot at any time during the first 25 years includes vivid memories of working in mud and water for long periods and of the effort required to move liner saw benches manually in these conditions as they were extremely heavy and had small diameter cast iron wheels.

Terry Breed, a forester at the Depot 1966-71, stated that his most vivid memory is of the atrocious conditions that men worked in with the whole site a sea of mud and water at times and of numerous lost "wellies". Early attempts to improve conditions were crude in the extreme. Sumps 6ft cube were dug to take water away from liner bench working sites as and when considered necessary. These would be filled in and others dug as the benches progressed converting the racks of poles.

At least one man, Don Cator, remembers falling into a sump full of water and having difficulty in getting out as the soft sandy soil sides tended to break away.

As dumping progressed the upper part of the open ditch became filled with bark.

It was the practice from quite early on to allow anyone in the area looking to dispose of suitable hardcore or like material, to dump it in the worst holes. the open ditch ran in quite a deep wet valley across the main site and as dumping progressed the ditch was piped probably starting in 1966.

Also in April 1966 the transit area adjacent to the office was surveyed for levels and a piped drain installed opening out into the soakaway pit in the Scots Pine belt in plot A. This included probably 3 surface drains with gully pots.

With the arrival of Graham Hobbs in 1970 a rather haphazard programme of surfacing and building started to develop. It was haphazard in the sense that there was no overall budgeted plan. Opportunities were made and taken whenever possible and improvements were frequently made and the money found some how afterwards.

Surfacing with hardcore some "acquired" some purchased and new buildings demanded provision for surface and storm water. Where possible this was piped with necessary gully pots into the main drain and into soakaways where access to the main drain was impracticable.

Gully pots with silt traps were essential as the light sandy soil combined with sawdust and bark caused considerable silting.

In January 1975 Anglian Survey Consultants were commissioned to survey the whole site for levels with particular attention paid to the perimeter and tracks. Two drawings exist dividing the area on the centre east-west road which gives a very good indication of the overall situation at that time in relation to levels, roads, tracks, buildings and surfaces.

The resulting site plan was used as the basic plan for all three reports and the final proposals for redevelopment 1976 to 1979. As part of the redevelopment the pipe draining the transit area into the pit in plot A was replaced with a much larger pipe and gully pots to prevent the flooding which occurred across the entrance beyond the weighbridge to a depth of 12" every time there was a good rain.

All other necessary drainage for storm water from surfaces and buildings constructed during the redevelopment was linked into existing drains or into new soakaways.

No improvements were made to the main drain apart from adding height to gully pots to bring drains up to new levels created by redevelopment work. At the deepest point the main pipe was about 15ft below ground level.

Silting remained a major problem and a regular drain maintenance programme by contract was instituted together with regular sweeping of the roads, tarmac and concrete surfaces, also by contract.

However, the main problem was that there was very little gradient in the channel to the river beyond the railway which resulted in insufficient flow rate to keep the main pipe clear of silt. Flooding in various parts of the site continued to be a problem so a company was engaged to flush out the whole system with water under pressure. They had severe problems when they got to the main pipe as it appears to be blocked solid, possibly by a collapsed pipe. By this time closure was a distinct possibility and it was decided not to proceed further.

All foul water drainage for both domestic and Depot premises was to septic tanks which had to be emptied regularly.

Drainage and the limitations presented by the one outlet under the railway to the river and the need to pipe and pump foul water to the main sewer adjacent to the level crossing in Brandon proved to be a significant stumbling block in all the deliberations regarding planning application and sale.

2.5 Surfacing See Appendix 2.c.

As indicated earlier the working surface remained the natural soil together with an ever increasing admixture of bark, sawdust and brash for at least 20 years to 1966.

It is likely that quite large quantities of very variable fill had been used to fill holes as they appeared and to make and maintain hard standings as the need arose. The source was very often builders or Civil Engineering contractors with material to dump. Some of the firms became regular visitors over many years even right up to closure.

What is clear is that there was no planned programme of surfacing for at least the first 25 years and even during the redevelopment surfacing was very much among the lowest priorities except for the sites of and immediate surrounds to buildings. The first weighbridge was installed in 1959 and the site of it together with the main entrance is a patchwork of different qualities and generations of tarmac, concrete and metalling confirming the view that even here surfacing was very much a piecemeal progression.

In 1966 levels were taken and drains installed on the transit area and presumably some improvement to the surface made.

From then until 1979 small additional areas of tarmac were put down on the transit area and probably the entrance improved.

An aerial photograph taken around 1970/71 by Studio Five in Thetford gives no clear indication of significant progress with tarmac surfacing for the transit area or roads.

In 1975 the track running north from the central crossroads was made up to a low specification tarmac road together with a strip for the new Swing line. With the redevelopment, the peeler, sawmill and service bay were all built on concrete platforms which, in the case of the peeler and sawmill, extended beyond the perimeter of the building to carry infeed decks and conveyers. Further extension to these aprons were infilled with tarmac which was also used as the surface for the bark bays and apron. The service bay was provided with a concrete apron incorporating a wash bay with pit and interceptor tanks.

In all cases subsequent problems arose at the edges of both concrete and tarmac surfaces where they abutted each other or the normal depot surface particularly where traffic was heavy. Rutting and accumulation of water resulted causing both concrete and tarmac edges to be broken away. Where the unpeeled pole yard coincided with the area used to dump bark, a course up to 12" thick of washed rejects was necessary to achieve an adequate bearing surface. The remainder of this area already had valuable patches of hardcore and was very compacted through regular use. In places, stumps were still present where a section of the forest had been felled previously. These were left and the whole area ripped in an attempt to improve drainage. It was then graded adding hoggin where necessary but no fine topping was added to the washed rejects, the incoming rubbish being certain to bind the top in time. The pitwood stock yard was scarified and regraded but very little extra hoggin was needed to give an adequate bearing surface although potholes, quite large at times, soon appeared. Pitwood was arranged in bays with alleys running east-west. These were scarified and regraded as necessary. The remaining areas were programmed for improvement over extended periods.

The first of these improvements was the small area of tar spray and chips put down on which to stack 0.5 woodwool billets. This was put down in 1985 and although a temporary improvement, by closure in 1988 it was barely evident.

In the remaining areas the situation continued as always, principally in the woodwool and peeled pole yards where no great amount of rain would create a quagmire of mud and water. Not long before closure some improvement was made to the southern area of the peeled pole yard using brick rubble and hoggin.

Over the years dust was a major problem which various trials with hygroscopic chemicals suggested by the National Coal Board failed to solve. Regular sweeping proved to be the best available measure but there was a notable improvement after completion of the redevelopment with improved surfacing purely because it was possible to sweep a larger proportion of the depot surface area leaving less dust to be disturbed by traffic movement.

2.6 Access and Roads See Appendix 2.d.

For many years there were 2 access points, one alongside Pine Vista Cafe entrance was discouraged and finally blocked off, presumably for security reasons, but when this occurred is not clear. Ownership of the track remained with the Forestry Commission even though drivers using the cafe regularly parked and still park on the track.

When M I Edwards bought the Clerkenwell building in 1981 and leased his site in 1983, access was to be and still is by that track and problems arose from cafe customer vehicles blocking access. The main entrance probably remained much the same until the redevelopment and the installation of the new electronic weighbridge in 1981. Discussions with Highway Authority which took place as part of courtesy discussions with the local planning authority regarding the planned redevelopment eventually resulted in improvement to site lines and the adoptation of the bellmouth by the Highway Authority in 1984. This coincided with the construction of an access direct onto the Mundford Road by Mr Hammond the then owner of Woodhouse which was a condition of sale in 1982. Also at the same time a reversing bay was constructed to allow vehicles check weighing and returning into the Depot to turn round more readily and with greater safety. Previous practice had been to reverse off the weighbridge in the face of other vehicles leaving the Depot.

All weather surfaced roads were non-existent for many years. Evidence on site suggests that the main access and central road which always was a track was improved and finally surfaced with low specification tarmac by degrees over a long period and it seems likely that very little had been done by 1966. Certainly improvements began to be made more rapidly from 1970 with the arrival of Graham Hobbs. The first extension beyond the central road was the spur to the Swing line which again was an improvement to the existing track of long standing between the Redbrick and Bromehill Cottages. No more was done until 1979 when the ring road system was planned as part of the redevelopment and construction started. The last section to be completed was the NE quarter part of which ran over the old bark dump. Bark was removed to a depth of 4 to 6 feet and it was replaced by fill from West Tofts gravel pit. The fill was well compacted with a vibratory roller and a tarmac surface in 2 courses added. In spite of the considerable site preparation the tarmac crazed quite early on after completion and the surface was quite fluid for a number of years, displaying very noticeable flexing as vehicles drove over it. Proposals for a roundabout at the crossroads adjacent to the office and the introduction of a one-way system were, in the light of experience once the redeveloped Depot was up and running, considered to be impractical.

The roundabout, because of lack of adequate space and without one no problems were created. The one-way system was considered but it was decided that the extra travel imposed by such a system, particularly during loading operations, was prohibitive and, in practice, a two-way system throughout proved acceptable.

2.7 Services

2.7.1 Water

The supply to all properties including Bromehill Cottages and Woodhouse was by a 1" pipe from a meter box in the apex of the junction between the Mundford and the Weeting road at the level crossing.

The approximate position is shown on Plan 3 App 2.d. M I Edwards (Engineers) was the only other premises connected to this supply and eventually had their own meter installed.

2.7.2 Electricity

The supply to the office, Oak Cottages and Woodhouse, was and remains an overhead supply across country from Weeting.

The supply to all other buildings, plant and machinery came from the north diagonally across the bark dump to the NW corner of the cottage site. The pole at this point carried a transformer from which the cottages were supplied.

From there the line continued SW, NW along the forest edge, and finally SW again to the black Nissen hut workshop where the main switch gear was situated.

The earliest requirement for electrical power for anything other than lights would have been 1971 when the pendulum and bandsaw line was constructed. Later additions included the Cambio 35 and Bark Mill in 1973 and the Swing line in 1975.

At the time of the redevelopment a new transformer rated at 450 KVA was installed by Eastern Electricity and a new Switch Gear building erected in the position shown on Plan 3. No alteration was made to the route taken by the overhead line to the transformer at this stage as the future of the cottages was still undecided.

The switch gear including power factor correction equipment, together with all distribution to plant and buildings within the Depot which was 3 phase, was installed by G E Child & Son Ltd of Kings Lynn. Internal distribution was by underground cable. Power factor correction equipment included PCB capacitors which were subsequently deemed dangerous and they were replaced.

Once full production with all new plant was underway further adjustment to the Power Factor Correction equipment resulted in significant savings.

Tariff for payment was Maximum Demand and Supply Capacity.

The Supply Capacity originally estimated proved to be well in excess of actuals and this was changed at the earliest opportunity after 5 years resulting in significant savings.

The cottages were demolished in 1983 and the dog leg in the overhead supply line to the transformer was straightened to come alongside the forest edge thus removing the danger of movement with vehicles under overhead lines throughout the bark dump area. The realignment was done in 1984.

3. BUILDINGS

3.1 Pre-Depot

The earliest known building on the site was the Augustinian Priory dedicated to St Mary and St Thomas-a-Becket, stones from which were used in the building of Bromehill Cottages. A very few of these stones were decorated and were dated as eighteenth century by the Castle Museum at Norwich where they were deposited when the cottages were demolished in 1983. Although the date of construction is not known to me I assume they were constructed as a farmhouse and later converted to 2 cottages with outbuildings later. These were acquired with the site by the Forestry Commission in 1926 and were let with the holdings for many years. Ultimately the tenants were Forestry Commission employees which was the situation when the Depot was established in 1946

At this time the only other building was Woodhouse Bungalow, also owned by the Forestry Commission. The tenant, a Mr Grant, ran ducks and chickens on C before the war and it is said that a tobacco drying shed stood on this plot at one time.

3.2 The Office

The first office was a small wooden shed close to the Mundford Road adjacent to the main entrance.

This was replaced in a few years by a bigger wooden sectional building shown as No 1 on the Anglia Survey drawing used to plot the new ring road in 1978 (Plan 4 app 3a). This building undoubtedly came from a camp, either army or one of those set up in the area in the 1920s/30s as training camps for the unemployed. A number of people recall the camp at High Lodge and one at Bourne in Lincolnshire as the sources of a number of buildings obtained around 1950 at the latest. (See Photo 1 1949 Annual Report.)

In 1959 the Avery weighbridge was installed necessitating an addition to house the weighbridge dial and to serve as the weighbridge office (No 2).

In 1970 a further extension (No 3) was added which I believe was a sectional building purchased from Greens of Brandon.

This was later subdivided into a foresters' office and general office by Graham Hobbs.

At some time probably early on a solid fuel boiler, inevitably second hand, was installed to run a hot water heating system through pipes rather than radiators originally, although radiators were installed in the 1966 extension. The fuel used was of course wood offcuts from the yard. This was the layout in 1979 when the redevelopment made provision for a new office incorporating the Avery weighbridge but the decision to replace the weighbridge simplified matters considerably. (See para II.4.1.)

3.3 Mess and Washroom Facilities

The first mess shed was a wooden framed building clad in slabwood situated close to the central road near to the site of the black Nissen Hut workshop.

It may have been adequate in terms of capacity at the outset but not for long. With the numbers of men employed rising to around 100 by 1950 most men took their breaks where they worked in the yard no matter what the weather, particularly the Polish workers. From all accounts it made little difference as the wind and dust readily blew between the cracks in the slabwood walls!

The next generation mess shed was a well constructed sectional building again brought in from a camp, possibly High Lodge, around 1949/50 and situated just east of the houses as indicated on Plan 4.

It was very basic but proof against the elements and heated by a tortoise stove in the centre of the floor with the stove pipe going straight up through the roof. This also gave the facility to toast sandwiches, a prerequisite for generations of forest workers.

Working conditions could be Artic-like in winter with very low temperatures, bitter east winds with frozen mud and ice underfoot, or Sahara-like conditions with frequent dust storms in the summer.

From very early days it was always understood and agreed that loading customer lorries continued whatever the weather.

An adequate shelter in which to gain respite from these extreme conditions and to dry out was essential but numbers were such that not even the new building was adequate to accommodate all the workforce in the early 50's leaving some still to take their breaks out in the yard, a situation which lasted only a year or so as numbers reduced.

This building remained much as erected apart from a varied assortment of chairs, benches and easy chairs accumulated from numerous sources, usually discarded from home and brought in to add a little more comfort. There were also good large strong tables which eventually had formica tops added.

It was finally sold and dismantled once the third mess building was completed as the first stage in the redevelopment in 1980, having been in continuous use for 30 years on the Depot site alone.

The first attempt to provide toilet facilities consisted of a pit with a pole across it, surrounded by corrugated iron and situated in the NW corner of the yard. Once full it was moved on a yard or so.

The second generation facility consisted of Elsan closets again surrounded by corrugated iron but still open to the sky. These finally gave way to a breeze block construction erected on the end of the Nissen Hut workshop probably sometime before 1955 in George Button's time as Manager.

This building contained flush toilets and a number of wash basins with running water all draining into a septic tank.

This facility also remained unchanged until 1980 when it was replaced by the new mess building.

Once numbers had fallen around 1952/53 and all could be accommodated and the toilet and washing facilities adjacent were available, the mess room became an important factor in the development of the communal spirit which undoubtedly existed among the men working at the Depot.

By 1976 it was generally agreed by those instigating the redevelopment that the facilities provided for the workforce had been and were still totally inadequate and that a new mess building must be the first priority once the redevelopment got underway. This was the case and the new building containing a large mess room, kitchen, flush toilets, urinal and wash basins, a personal locker and drying room and a store room came into use early in 1980.

A large tiled plinth with a kerbed edge stood roughly in the centre of the mess room. It had been considered very desirable to retain the tortoise stove as being a centre around which the workforce had congregated in the old building and it was to stand on this plinth with the usual smoke pipe going straight up through the ceiling.

Heating was to be by hot water radiator central heating run from a wood fired boiler. The tortoise stove was to serve a social purpose and to provide a means of making toast.

In the event the majority of the staff saw the stove as incongruous in the new building and it was agreed not to install the stove on the understanding that alternative means of making toast was provided which was done. Many would claim the electric and gas fired alternatives failed to create quite the same atmosphere.

3.4 Workshop/Garage

From the outset the number of liner benches, tractors and trailers used exclusively at the Depot grew rapidly requiring a considerable input on maintenance and repair. Responsibility for this was and it remained with the Workshop at Santon Downham but a full time mobile mechanic soon gave place to a resident mechanic. By 1949/50 a Nissen Hut to be known as the "Black Nissen Hut" had been erected as a Workshop/Garage and it remained virtually unaltered serving as a garage workshop and eventually housing the first switchgear until February 1981 when the new Service Bay was complete and ready for use.

At the far end of the building away from the entrance a small section had been partitioned off to make a "den" containing a large wood burning stove. This was traditionally the preserve of drivers and the mechanic for use as a mess room and I believe the mechanic also used it as an office.

To call it a den is very apt as it had no windows, one light and was well blackened by smoke. Its most important and all redeeming feature was that it was very warm even in the coldest weather and the stove made excellent toast!

It was never possible to keep more than one or two vehicles in the Nissen Hut and as more sophisticated plant and machinery came into use demanding more maintenance and repair equipment even less garaging was possible. Some tractors were kept overnight at the London Road Camp situated in Brandon on what is now the Industrial Estate. This may have been because some of the men working at the Depot, English and Polish, lived in the camp which appears to have been used to alleviate the housing shortage up to about 1960.

An event remembered by many was the occasion when 6 tractors parked on the camp overnight were found to be without magnetoes in the morning.

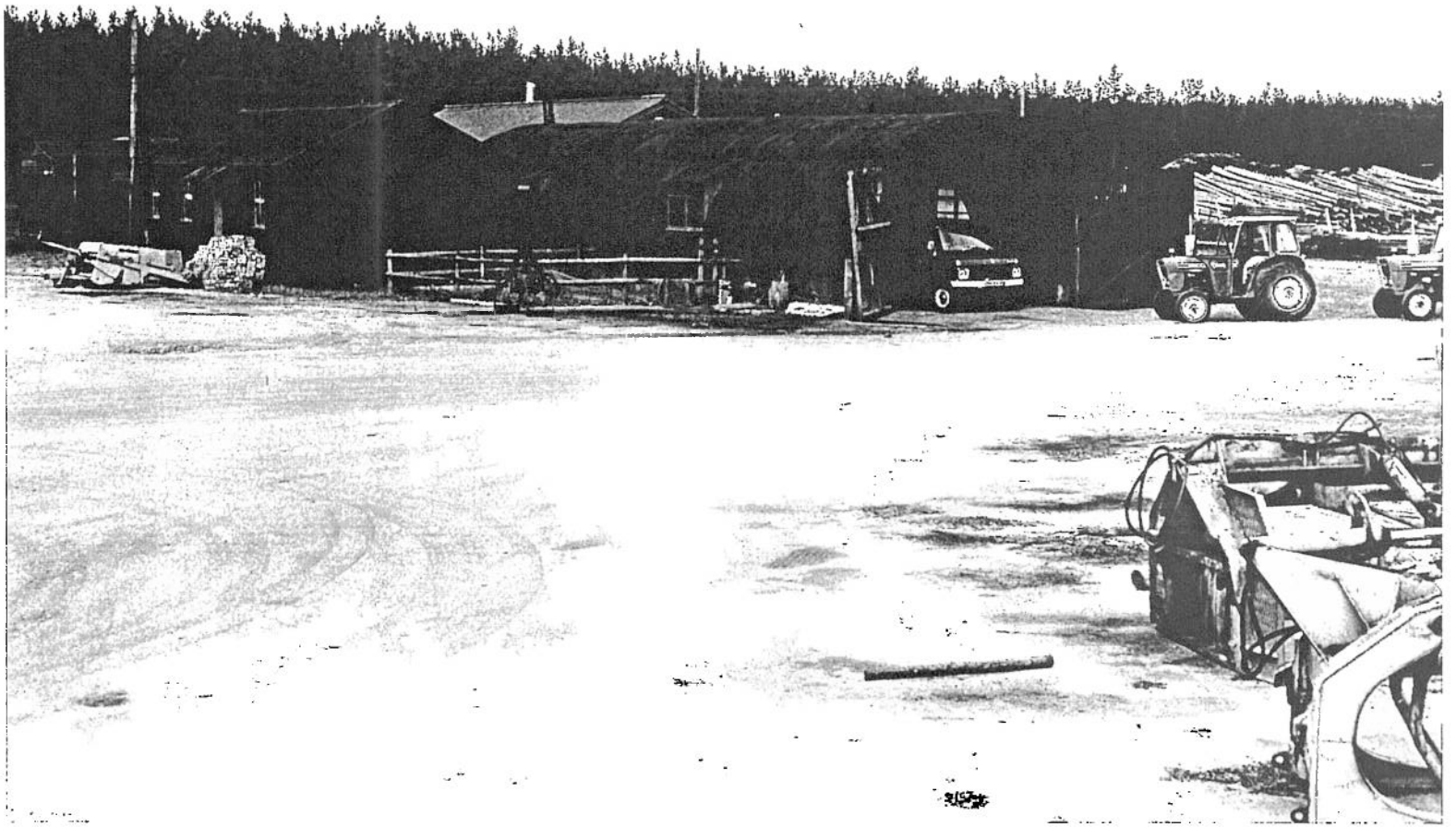


Plate 2 Black Nissen Hut (Workshop), large store shed and other sheds accumulated over many years. New mess building roof just visible in background

Eventually in the early 1970s it became Forestry Commission stated policy that no provision should be made for garaging vehicles under cover.

Right up to its final days flooding to a depth of some 4"-6" over the front third of the floor area resulted from the general lack of adequate surface water drainage throughout the Depot.

3.4.1 Plant and Machinery

For the first 25 years all operations were carried out in the open with no shelter of any description. All the liner benches were left in the open creating considerable starting problems with up to 16 benches in very cold weather, particularly those earlier models with a petrol engine. The same applied to the Kingslaw Peeler, the Witte Saw and much later the Cundey Peeler. The Cambio peeler introduced in 1963 was mobile and any shelter provided was an integral part of the mobile set up.

The first operational building was probably the stake production shed although not certain when it was erected I think it likely to have been shortly after 1970. This was after the closure of the creosote plant at Santon Downham when the emphasis on stake production moved to the Depot and the machinery was transferred into the Depot.

The building, which was situated in the NW corner of the yard, consisted of untreated poles as uprights with sawn and half round beams supporting a virtually flat corrugated iron roof. Some side cladding in both Onduline (a green corrugated waxed fibre material) and corrugated iron was added on one side later to protect an electrical switchboard. During the early part of Graham Hobbs' time as Manager moves towards mechanisation were quite rapid with the pendulum and band saw line in 1971, the fixed Cambio 35 and bark mill in 1973 and the 3 swing saws in 1976.

The building for this plant was very much the result of self help both in terms of design and construction and all followed a similar pattern.

Uprights were round poles pressure treated with CCA by Chase Sawmill in Brandon.

Square sawn timber was used for stud work where walls were required and the roofs were constructed from truss units constructed on site from square sawn. Other roof timber was either half round (split) or square sawn. Half round "splits" and some of the squared timbers were cut on Liner benches, an onerous task as it all had to be pushed through manually.

The Forressian Saw, a circular splitting saw with continuous dogged chain feed was also used, being capable of splitting lengths up to 20ft.

Very soon after moving to the Depot, probably in 1971 Graham Hobbs obtained a very old rack bench from a local sawmiller in exchange for a load of firewood.

This enabled the staff to cut all the squared timber they needed for buildings and anything else including 20"/0.5m wood wool pallets and splits for pitwood boxes.

The rack bench remained in the open for a year or so but by about 1973/74 it was housed in its own open sided shed together with the Saga bandsaw with a slat sided timber store and drying shed of almost equal length at the southern end. On all these new buildings the roofs and wall cladding where required, was green Onduline sheet, a waxed fibre corrugated sheet material which compared with corrugated iron was cheaper, easier to use, aesthetically more pleasing and required no painting. The only disadvantage was its greater susceptibility to damage.

These buildings were a great improvement on the stake production shed giving much better protection from the elements thus reducing lost time due to weather.

They were also of more pleasing appearance, although by the time they were demolished to make way for the new buildings during redevelopment 1979-1982 or when the site was cleared on closure, continual modification and repair particularly to cladding after years of continuous very hard usage had left its mark.

These buildings were functional and served their purpose well. They were very seldom, if ever budgeted for, built on a shoestring using initiative expertise and skills from within the Depot staff alone.

As part of the redevelopment all Cambio peeling was housed under one roof and the main conversion under another in the sawmill.

The Swing line, Rustic bench, stake production shed and the rack bench and timber store were all retained as part of the redeveloped site.

3.5 Other Buildings

3.5.1 Stores

There were a number of buildings used as stores but the biggest was a large sectional wooden shed brought in from a camp, probably erected around 1952/53, but certainly not in existence on the site in 1949/50. This was used as a general store and housed circular saw and later band saw blades before and after sharpening. It contained benches where tool maintenance such as rehandling could be done.

3.5.2 Chainsaw Workshop

In 1965 felling in the forest with chainsaws issued by the Forestry Commission became standard practice for the first time. With this development came the need for a centralised chainsaw workshop. The first was situated in the general store described 3.5.1 but a full time chainsaw mechanic was appointed, Billy Lake, and he worked from a small wooden shed erected for the purpose. There was also another small shed used as a store for the chainsaw mechanic and the Depot fitter, I believe.

3.5.3 Oil Store and Fuel Pumps

For many years the oil store consisted of a corrugated iron shack with an earth floor situated close to the office. Two fuel pumps, one petrol and one diesel stood in front of the oil store although the petrol pump fell into disuse with the general move to diesel. The positioning of both the oil store and pumps adjacent to the office obviously facilitated control of keys and issues but did nothing for appearance at the entrance to the site.

The general store, chainsaw workshop, fitters store and office, oil store and fuel pumps were all incorporated in the new Service Bay erected as part of the redevelopment, which allowed the removal of all the old facilities, presenting a much improved appearance as well as greatly improving the facilities themselves. It was completed in February 1981.

3.5.4 Cycle Shed

A corrugated iron open fronted cycle shed at least 20 metres long remained until redevelopment in 1980, a reminder of the days not so long before when most men cycled to work. A few continued to so do right up to closure.

3.5.5 Handyman's Shed

Originally this was the office at the Creosote Plant. It was moved to the western end of the Depot in 1970 when the Creosote Plant closed and was used as a base and office for ganger/checkers working at that end of the yard.

In 1975 the first handyman, Joe Seicher, was appointed and it was moved to its final position to serve as a workshop for the handyman. It was sold for £20 in 1988 and now serves as a garden shed nearly 40 years on from its first use.

3.6 Clerkenwell Building

This was a large steel framed open slat sided building erected by the Clerkenwell Green Association from monies raised by public subscription. It is situated in the NE corner of the Depot on land now leased to M I Edwards.

The intention was to use the building to store and dry planked logs, principally homegrown hardwoods, for subsequent use by members of the Guild of Musical Instrument Makers.

The site was provided at a peppercorn rent by the Forestry Commission and the building was constructed in 1974.

The sum total of logs delivered to the store was 2 very large lime logs and that was all. The scheme never did get off the ground and various options as to its future use were discussed including use by the Forestry Commission as a seed store but nothing came of this.

Eventually it was purchased by M I Edwards with whom a lease for the site was finally agreed in 1983. He converted the building for use as an engineering workshop with offices which ultimately became his sole premises.

This final outcome was of mutual benefit to both the Forestry Commission and M I Edwards at that time as they were heavily engaged in building and maintaining the peeler plant and sawmill.

3.7 Houses

In addition to Bromehill Cottages and Woodhouse which were acquired with the land, a pair of semi detached timber framed houses, Nos 1 and 2 Oak Cottages were erected by the Forestry Commission being completed in May 1951.

Bob Walton was the first to live in No 2 and it was usual for the Depot Manager to live there. George Lawson certainly did as did Graham Hobbs until 1976 when, although still Manager, he moved to High Ash. There had been talk of building a new house on site for the Manager but this never did materialise. By 1976 housing policy had changed and many foresters were buying their own, a situation which I am sure influenced the decision not to build.

Oak cottages were not up to the set standard for a foresters house current in 1976 so Graham Hobbs moved to Crane Cottage at High Ash which was. This move coincided with the demolition of the old barn and cottage adjacent to the main office at Santon Downham where the Work Study and Training offices and the deer larder now stand.

Ernie Whitta who had been living in the cottage, moved into No 2 Oak Cottage. He was already working at the Depot as a ganger/checker but on moving to live on the site he became the first caretaker. He moved into a council bungalow in October 1982 when Allan MacKenzie, the Depot Foreman succeeded him as tenant and caretaker.

The cottage was subsequently designated a Key House in relation to caretaker's duties and was therefore not subject to Fair Rent.

Previous tenants of No 1 are not nearly as well documented but it seems likely that some foresters who worked in the Depot did live there for short periods, Russell Goodson currently Santon Downham Workshop Foreman, has lived there for at least 15 years, his wife Alice having worked as office cleaner for almost the same period.

In 1989 both tenants successfully requested to purchase their respective properties, both being eligible for significant discounts as Forestry Commission tenants of quite long standing.

Bromehill Cottages remained FC property being let to a succession of employees until increasing difficulties with vehicular access and the effects on outlook created by the redevelopment left them unoccupied for a number of years. The last tenants were Desmond Green, a ranger and Seaman Chubb the Bowater haulier whose drivers used one of the cottages for overnight stops between loads.

The cottages were in a sad state of repair but the Conservator at the time considered they were saleable but this was finally dismissed as the full effect of the redevelopment became apparent.

They were finally demolished in 1983 as an exercise by troops while training on the Battle Area. Any stones thought to have originated from the Priory were deposited in Norwich Castle Museum for safe keeping at the request at the Norfolk Archaeological Unit.

3.8 Redevelopment

By the late 1970s when the major redevelopment was under consideration the image presented by the very varied collection of buildings accumulated over 30 years or more gave considerable scope for improvement. It was decided that the number of buildings would be considerably reduced and that there should be a uniform approach to the design and appearance of all new buildings including those housing the peelers and the sawmill. It was also agreed that the design and appearance should be in keeping with the operation.

Five new buildings were planned and the general impression was to be a low brick wall base with close board cladding above. The roofs were to be well pitched with a good overhang to the eaves and clad with Three Tone Blue corrugated asbestos. The overall effect was intended to present a chalet appearance, a concept which I believe may have had its origins in buildings erected at Hopton Timber Co sawmill but that is entirely my view.

Final completion of all the buildings in December 1982 when the sawmill came into operation, in my view confirmed that the original objective of a fairly uniform appearance, functional but pleasing to the eye and in keeping with the operation, had been fully met.

3.8.1 Mess Building

The provision of a new mess building was seen as the first priority and building started during 1979 and was completed early in 1980 by Humans of Soham. It was well appointed with a large main mess room, a kitchen, a drying room with personal lockers, wash room and toilets and a store room. This last was originally intended as a ganger's office but a later view that it would be more practical to house the gangers in the main office prevailed. The second proposition was to use the room as a first aid room but finally it was used by the mess building cleaner as a store room although it was used by the local doctor very occasionally for periodic group anti tetanus injections.

The building was of brick and block construction with vertical tongue and groove softwood cladding above the low brick base wall. The cladding was treated with a red/brown wood treatment. Heating was by a large cylinder wood fired boiler servicing hot water radiators. The boiler was more than adequate for the system creating problems occasionally by overheating. Although fuel was readily available from offcuts, the cost was the current price obtained for firewood plus the labour cost of fueling and maintaining the boiler 7 days a week in very cold weather. Wood fired boilers and heaters were very much in vogue at the time the redevelopment was planned but it would almost certainly have been more economic to use oil or electricity.

3.8.2 The Office

This was of similar construction to the mess building but it was built by Goddards of Thetford. Originally it was to incorporate the old weighbridge office by building the new office around it. The decision to install a new modern weighbridge simplified matters considerably.

The revised plans provided 5 offices for the manager, the forester and foreman, the weighbridge, 2 gangers and the main office and reception for the clerical staff. A kitchen, toilets and a boiler room completed the facilities. Heating was by a wood fired boiler and hot water radiators. The offcuts used for fuel were never really dry enough, the recommended moisture content being 25%, which created regular problems with tar deposits in the boiler flues and the stainless steel chimney. The fuel had to be less than 10 inches long to go into the fire box which meant either sorting offcuts or cutting lengths specially, both expensive operations.

Very soon after moving into the building in December 1980 that part of the entrance porch which was over the weighbridge enquiry window was filled in and glazed to give added protection to drivers, their paperwork and the weighbridge operator.

These revised plans had reduced the overall size of the building in order to recoup some of the over expenditure incurred on the mess building. This reduced available space to a bare minimum particularly for the clerical staff.

The introduction of computers in 1984 with all the ancillary equipment that followed on, created increasing space problems to the point where in 1987 an extension was agreed. The general office was enlarged by including the managers office. Heating was changed to electric night storage and the boiler room was converted into the kitchen. This allowed an extension on the southern end to provide another manager's office and a paperstore with access via the existing corridor extended through the old kitchen. This new arrangement was a great improvement much appreciated by all the staff not least of all myself. In the original plans the manager's office was to be large enough to hold meetings in but the cuts rendered that impossible. The new office was of sufficient size and the change to electric heating resulted in considerable savings particularly as offcuts were by then selling at £16 per tonne.

3.8.3 Service Bay and Wash Bay

The framework for this building was provided by keruing pillars bolted to floor plates with the roof constructed in wood also. From there the construction was much as for the office and mess building. A low brick base wall with block work above covered by vertical tongue and groove board treated as before. Roofing was also the same.

The plan included a central service bay suitably equipped with 110 volt electrical supply, benches and a well equipped service pit. The height was sufficient to take the Coles Crane partly because frozen wire ropes, pulleys and windscreens created considerable problems in severe weather when the crane was left outside.

On the western side there were open fronted bays for storage or to garage tractors, flanked at one end by the oil store with access from outside and within the service bay. The boiler room, containing a wood fired space heater, was situated at the other end. This provided ducted warm air to the central service bay and the chainsaw workshop situated at one end on the eastern side. Also on this side were the Depot general store in the middle and at the other end the Depot fitters office and store with access direct into the service bay.

This was no longer used as an office once the chainsaw and Depot fitters duties were covered by one man, but it did continue as a store.

The approach to the building was a full width concrete apron sloping slightly away from the building ensuring no more flooded workshops.

A wash bay with silt trap and interceptor tanks was situated to one side of the apron complete with boxed in stand pipe and hose reel and weatherproof power socket for steam cleaning. A mobile steel ramp originally constructed to provide a safe means of loading bark over high sided vehicles, was positioned over the wash bay pit permanently to facilitate steam cleaning as well as general hosing down of vehicles and equipment.

Also situated in the service bay area was an underground bulk storage diesel tank capacity 9,000 litres complete with fuel pump with a facility to automatically record fuel withdrawals by up to 24 separate vehicles.

There was great reluctance to call the service bay a workshop for fear this might be considered a duplication of the main workshop facility at Santon Downham. In practice the service bay was well used in the context of Depot vehicles and machines but moves from agricultural tractors to forwarders of increasing size in the forest created a shortage of space in the main workshop and many major repair jobs were carried out in the Depot Service Bay.

The building also built by Goddards of Thetford came into use in March 1981 but it was mid 1982 before the front apron, wash bay and fuel pump were completed and ready to use.

3.8.4 Peeler Complex and Sawmill

Both buildings were based on a steel girder frame, the main uprights having base plates welded on which were set in concrete. All the areas on which the buildings and conveyors stood were reinforced concrete as were some of the smaller included areas. Other areas in the immediate surrounds which were not to be subjected to regular hard wear were tarmac.

Again a low brick base wall was constructed on which stud walls were constructed within the steel frame. Cladding was square sawn pressure treated softwood boards arranged vertically. Roofing materials and rain water goods were as for all the other buildings.

Both buildings were constructed by sub-contractors to M I Edwards the main contractor for both the peeler and sawmill projects.

3.8.5 Switchgear Building

This was built to house all the new switchgear and power factor correction equipment for the electrical power supply to the yard including all plant and machinery and all buildings except the office and the 2 houses. These were supplied on a separate line from Weeting.

3.9 Pine Vista Cafe

Although having no direct connection with the Depot, I think it very likely that the presence of the Depot influenced the decision to build it.

It was preceded by a mobile snack bar positioned on the land opposite the cafe adjacent to the Mundford Road run by a man named Geoff Bolton.

When the snack bar first started to operate is not clear but it was there in 1946 and probably had been for some time serving the needs of servicemen, railway workers and drivers generally.

It was common practice in those early days for some of the men working at the Depot to take their breaks at the snack bar. Food rationing was still in operation and despite the extra rations in tea, sugar and cheese given to workers in certain occupations including forestry up to the early 1950s, no doubt purchases of tea etc made at the snack bar helped to eke out meagre rations.

Stan Cator the Depot crane driver clearly remembers the good times spent in the company of many who would congregate around the snack bar during break times.

It is said that Mr Fisher, school master, saw the potential for a cafe opposite. He erected an Arcon building and that was, and still is, the Pine Vista Cafe. He also built his house there which still stands behind the cafe. This must have put the snack bar out of business but generations of Depot staff, and particularly lorries drivers, FC and contractors, have continued to use the cafe regularly.

With improved mess room conditions and maybe the end of rationing visits became less frequent but right up to closure a few were still regular customers and drivers hauling to and from the depot frequently took their breaks there or whiled away the odd hour waiting to be loaded. Some parked overnight and regularly obtained their meals there.

4. STAFF

During the 42 years of its existence there have been a great many staff involved at the Depot at various levels.

There have been 6 Conservators with the second, G W Backhouse, remaining in post until retirement in 1971.

Designations changed with succeeding reorganisations but particular responsibility for the Depot at Conservancy level was always with Divisional Officer or later Assistant Conservator Harvesting and Marketing and finally Assistant Conservator Operations.

Numerous District Officers have spent part of their career either at Thetford or at Conservancy level involved with the Depot in some way or other.

It has always been different from a normal forest unit, in fact unique and throughout its history has always had a manager appointed by and responsible to the Forestry Commission through the senior officer responsible for the District in which it was situated, the Harvesting and Marketing function or the officer in charge of the whole Forest or Forest District depending on the structual organisation current at the time.

A record of staff including Conservators, Forest Officers, Foresters, Foremen and Clerks has been compiled but inevitably and regrettably it is incomplete, the greatest difficulty being to trace records of all the foresters who spent or "served" time at the Depot as many would describe it.

Staff lists in the Forestry Commission Journal published until 1968/69 gave reliable indications. From that date staff lists indicating where staff were working were no longer published. See Appendix 4a.

4.1 Foresters

The first name mentioned in connection with supervision in the Depot is that of Jack Sealey, a ganger who worked for TPD mainly on production operations in the woods.

He lived in one of the Redbrick Cottages adjacent to the Depot and according to Bob Walton, the first forester to work full time in the Depot, Jack Sealey had been ganger in charge of the TPD operation on the Depot site and that he had taken over from him on starting there in 1947.

As the general consensus is that the Forestry Commission started its Depot operations in 1946 it seems likely that Jack Sealey continued to work there for a period after the handover. Shortly after this, probably in 1947, a Mr Wrapson a non FC man was appointed as Manager. He is said to have had little or no previous experience of roundwood conversion and he was soon succeeded by George Button in 1948 who was the first of a total of only 5 FC Managers.

In the Forestry Commission generally staff were moved around quite frequently particularly in the earlier years, but Brandon Depot was an exception. This was undoubtedly because it was a unique job for which few had any enthusiasm and having once found someone suitable who was interested, they remained there.

George Lawson succeeded George Button in 1955 and remained there until 1966 when he was promoted from Head Forester to Chief Forester.

According to an organisational and staffing chart started by Don Small (District Officer, Thetford 1956 to 1961) there had been 3 District Foresters from 1952, one named Smith, J W Anderson and Charlie Redford but I am unable to ascertain how the forest was organised for management purposes at that time.

By 1958 Thetford was split North and South of the Little River Ouse river into 2 Districts.

In that year J W Anderson became District Forester North and Charlie Redford District Forester South. This remained until Ernie Poll replaced J W Anderson in 1962.

In 1966 followng a recent restructuring of the forester grades in 1965 which had created new grades of forester, namely Forester, Head Forester and Chief Forester, 3 functional Chief Foresters were appointed, Charlie Redford, Forest Management, Ernie Poll, Harvesting and George Lawson Marketing and the Depot.

Responsibility for the lorry fleet and the drivers was transferred from George Lawson to the newly appointed Depot Manager and with them responsibility for all loading in the forest.

Ian Campbell was appointed Depot Manager having moved up from the New Forest in 1966.

Within weeks foresters who had been assisting George Lawson were replaced by Terry Breed who ultimately took charge of the lorry fleet and loading together with the Creosote Plant while Mick Cheesewright was responsible for the Depot operations, both being responsible to the Manager, Ian Campbell.

All these moves and changes followed, the arrival of Dallas Mithen as Assistant Conservator Harvesting in Marketing in 1965.

Volumes to be harvested and pole size were increasing rapidly necessitating moves towards motor manual methods of harvesting prompted by developments in Sweden which in turn increased the volume supplied to the depot for processing.

Ian Campbell remained until March 1970, during which time throughput increased dramatically but chiefly through shift working and extensive overtime.

Prior to 1966 numerous ex school Gangers (1946 to 1955) and Assistant Foresters (1956 to 1965) spent spells of a year or 2 working in the Depot sometimes 3 or 4 at any one time. for many it was the first posting after 2 years at Lynford Hall, one of the 5 Forestry Commission Forester Training Schools open during the period. A high proportion of foresters who worked in East England spent some of their time in Brandon Depot, an experience remembered vividly and for most an experience not to be repeated if at all possible. The near industrial operation, sometimes in appalling conditions was very different to their expectations of forestry.

With the start of the general use of chainsaws for felling in 1965 came also the rideside conversion of bent poles for pulp/chip markets. Previously, from 1946, all this material had been converted in the Depot. These products were still produced but as a by product to pitwood production rather than as primary products.

Ian Campbell remained as Manager until March 1970 when Graham Hobbs succeeded him on promotion to Head Forester.

Graham was a local man who had started work with TPD in the Thetford area on leaving school. He had worked in small depots and sawmills until his 2 years' National Service in 1946. He returned in 1948 by which time the Forestry Commission had taken up the production reins again. Apart from a spell in Lincolnshire Graham worked in Thetford throughout and always retained a special interest in mills and milling. His appointment as Depot manager proved to be a turning point as he took the initiative, exercising his interest, knowledge and expertise to mechanise and generally improve processes and working conditions.

In 1972 both Terry Breed and Mick Cheesewright moved on and Martin Sayer replaced them.

At this time the Thetford Beats were reduced to 4 each in the charge of a territorial Chief Forester, Swaffham under John Webster, Santon - Ray Young, Bridgham - Ernie Poll and Kings - George Lawson.

With this change responsibility for lorries and loading moved to the beats and as the creosote plant had already closed at least a year earlier one forester in addition to the Manager was considered adequate. In 1979 following representations from the local branch of the CSU the Depot was upgraded to a Chief Forester chargeship on the basis of its annual budget and very significant income which involved responsibilities equivalent to and in excess of many Chief Forester posts elsewhere.

Graham Hobbs was granted temporary promotion but was unsuccessful at interview for substantive promotion in that year.

As a result he moved on to Forest Management duties on Swaffham Beat after 9 years at the Depot during which, apart from initiating more changes and improvements than had taken place in the previous 24 years, he played a prominent part in laying the foundations for the redevelopment which was just about getting under way as he left. He was succeeded by myself, Barry Griggs, on promotion to Chief Forester, 1 October 1979 after 2 years as production forester on West Tofts (in succession to Graham Hobbs) and production Head Forester at Bridgham.

Two years before this in 1977 Tony Graver succeeded Martin Sayer who moved up to Wensum. He came from Silvicultural Research having been outstationed at Brecon for a number of years.

Representations had been made, over a number of years, again by the local CSU branch supporting the Depot Manager, for a second forester. This request was subsequently modified and in November 1979 Allan MacKenzie was appointed as Industrial Foreman at the Depot having been the second choice on an appointment board convened specially for the Depot post and one in Lincolnshire at Bardney Forest. The first choice declined the appointment and joined the Police Force.

In 1983 Tony Graver moved onto Central Beat and was succeeded by Ron Hoblyn, previously Production Forester on Swaffham Beat.

This team, Barry Griggs, Ron Hoblyn and Allan MacKenzie remained until closure.

On closure Ron Hoblyn became Recreation and Public Relations Forester at Thetford. Allan MacKenzie worked as a foreman on production clearing windblow with the North Beat team

operating in Suffolk and was ultimately successful in being recruited as a Forest Officer IV in situ as he had been filling a vacancy on a temporary basis.

I remained to oversee the final clearance and sale of the Depot together with various special projects, particularly responsibility for the wet log store established at Lynford to take 73,000 tonnes of pine sawlogs from the October 1987 windblow and of course to research and write this History of the Depot.

4.2 Clerical and Weighbridge

Although unable to be sure about the very early days, by 1956 there was one clerk handling all paperwork relating to dispatches and two handling the rest including pay and accounting.

In 1959 with the installation of the Avery weighbridge the dispatch clerk, Molly Cator as she became later, operated the weighbridge and continued to handle all other related paper work until 1966, when Fred Royal took over the dispatch clerk and weighbridge operators duties, Molly having left to start a family. She returned in 1970 and stayed until 1979 when she transferred to Estates and then Private Woodlands at Santon Downham having served from 1956 to date (1989) with a break of only 5 years.

A number of names are mentioned as having been clerks probably in the earlier period before 1966 and they are recorded but it is unlikely that the list is complete. Ref Appendix 4.b.

From 1966 to 1979 the clerical complement remained the same Ernie Whitta having succeeded Fred Royal as weighbridge operator and dispatch clerk on his retirement in 1978. In 1979 a third clerk was recruited because of the increasing volume of work generated by increasing production and dispatch of pitwood. The exercise of daily stock control on at least 160 different pitwood sizes manually was a mammoth task on its own. Demands for stricter monitoring and control of the whole operation as the redevelopment progressed also increased the clerical work load.

The weighbridge had always been a public weighbridge as far as I know but once the new electronic weighbridge had been installed in August 1981 public use increased considerably.

In November 1983 a back-up to the weighbridge operator was recruited and trained with the intention that he would work in the yard when not required on the weighbridge.

Unfortunately, Ernie Whitta suffered a severe stroke within a few weeks never to return to work leaving Stephen Frost as operator and still no back-up.

The Trading Standards office require that operators of public weighbridges are tested and certificated for competence.

In May 1984 all staff working out of the office including foresters, clerks, foreman and the new operator were tested successfully providing more than adequate back-up.

The Management Structure Review Group (1982) reported towards the end of 1982, the operative date for the consequential changes being
1 April 1984. The principal change was the formation of 70 Forest District Cost Centres with a programme of computerisation aimed at establishing a nationwide network, each Cost Centre being linked to Headquarters in Edinburgh.

In order to monitor and control profitability following the redevelopment it was ultimately agreed that the Depot should be a separate Cost Centre with a separate budget and full computer facilities but still within the overall responsibility of the Forest District Manager. In addition a Management Board had been appointed and monthly report forms unique to the Depot instituted.

Clerical complement for the new structure was decided en bloc for the whole of the Thetford Forest District including the Depot and early in 1983 applications for voluntary redundancy were invited.

Daphne Gill, one of the three Depot clerks applied successfully and she was not replaced, the intention being that any shortfall at times of annual leave, sickness or periodic peaks would be covered by staff from Santon Downham.
On the same date 1 April 1984 all forest clerks who were classed as industrial staff were to be regraded to non industrial status and the two Depot clerks were graded as Clerical Assistants, an injustice which took almost 2 years to rectify.

During this period of major change the workload in the Depot Office was much increased, having become an independent cost centre with full computer facilities with increased throughput and considerable increases in cash sales, and almost no assistance had been forthcoming from Forest District Office as they were under great pressure for similar reasons.

In addition, despite numerous investigations the processing and control of Depot production, stock dispatch and invoicing remained manual while moves towards computerisation were advancing rapidly for all other Cost Centres.

In July 1985 a temporary clerk was recruited for three months to cover the main holiday period. A staff inspection report made in 1986 on the inspection carried out in 1985 recommended a clerical complement of 3 Clerical Officers which with prospects already adversely affected by the miner's strike and the pit closures which followed, never came to be. Nevertheless, from early in 1986 the extra work created by the introduction of new packages to the computer system especially FAMIS resulted in Rita Hubbard being recruited on a casual basis for 20 hours per week. She continued to do so with only a few short breaks until February 1988 when both Rosemary Traves and Rosemarie Rolph were transferred to Santon Downham Workshop after a great deal of uncertainty as to their future resulting from the decision to close the Depot.

Rita Hubbard remained until 2 October 1988, assisting with the run down, handling all necessary clerical and computer work as well as assisting the Workshop and working for Research one day a week.

She was recruited to the Workshop, again on a casual basis, where she continued to process the Depot cash account and other necessary computer data until absolute closure of Cost Centre 213 on
31 March 1989.

The weighbridge continued to function for both public and Forestry Commission use mainly to control input and haulage into the Wet Log Store at Lynford.

From 7 October 1988 Geoff Southgate manned the weighbridge having retired and been replaced by Ron Hoblyn as Public Relations Head Forester.

The weighbridge finally closed on Friday 26 May 1989.

4.3 Industrial Staff

Prior to 1946 it is certain that women were working on the site for TPD as members of the Womens Timber Corps.

With the take-over of the site by the Forestry Commission in 1946 there were no more than 15 employed and it appears certain that these were all men. Women had been employed in the forest during and after the war but numbers reduced rapidly once the war was over, with just a few remaining for a considerable number of years in East Anglian forests, as they did elsewhere, some to retirement. By 1950 numbers were up to around 100 some being new recruits and others having transferred in from the forest. Many returned from war service following previous employment with the Commission. Polish Nationals who had served with the British Army and had been demobilised in the area were recruited both to the forest and the Depot. They were living in the various camps in Brandon, Elveden and Weeting which they continued to do until houses were provided around 1960.

The creosote plant was almost entirely manned by Poles, many were felling in the forest and at least 6 worked in the Depot. Their reputation as reliable workers willing and able to work hard remains to this day although most if not all are now retired.

They tended to retain their Polish nationality and a very strong Polish community continues to exist in Brandon where they still have their own club. Many suffered considerable hardship and deprivation getting out of Poland early in the war and many still have relations living in Poland.

Visits home have become less difficult but those who do return appear to have no wish to live in Poland permanently. Despite continuing to be fiercely Polish they all seem content with their life in England with second and now third generations becoming well integrated in the area.

In the late 1940s pay was relatively low and piecework not always available. The American air bases were under construction providing better paid work albeit for a limited period.

Quite a few men regretted leaving Commission employment for short periods because of the detrimental effect it had on their pension when the time came to retire many years later.

Forestry was a reserved occupation during the war so quite large numbers who worked for the Forestry Commission before the war worked for TPD for the duration and were transferred back in 1946/47. These were generally local born and bred mainly from Santon Downham, Brandon, Weeting, Hockwold, Methwold and Mundford, and in many cases sons followed fathers into Commission employment. In the case of the Winstone family, father moved up from Wiltshire in 1923 to work for the Commission ultimately as a ganger and he unfortunately died in service. Nelson, his brother came with him, and he worked at the Depot from 1948 to 1975.

Ken Winstone, nephew to Nelson, worked in the forest for a short period before the war, returned in 1948 after service with the Marines, working in the Depot from then until he retired in 1987. Ken's son Michael worked at the Depot from 1978 to 1988 when he was made redundant on the closure.

This remarkable record of service spanning 3 generations and 65 years involving around 100 years service in total is I believe unique in Thetford and probably the Forestry Commission for one family.

As production from the forest increased and peeling moved from the Depot into the forest, men transferred from the Depot to the forest and numbers settled to around 60.

With increased production came incentive payments on a regular basis and by the mid 1950s Thetford earnings had the reputation of being high and they were certainly good in relation to other occupations in the area.

Transfers between forest and Depot remained a feature throughout, some to supply a particular need as when Tom Ashley was transferred in from Gangers duties in the forest to take up Ganger/Checker duties in the Depot in 1960 for instance.

Other occasions resulted from restructuring as in 1966 when both the creosote plant and all transport became the responsibility of the Depot staff resulting in a considerable boost in numbers to around 70. Improved production methods resulting from the introduction and improvement of chainsaws and tractor extraction ultimately resulted in redundancy in February 1972.

The decision as to who was to go was made on the basis of last in first out taken over the whole forest including the Depot and I believe the total number was 26 of which 3 were from the Depot.
Many good young workers were lost in this exercise which although essential, adversely affected the age structure of the work force for many years. By 1976 all 3 had been re-employed at the Depot together with one chain sawyer made redundant from West Tofts beat, only to be made redundant again at the closure in 1988.

In 1972 responsibility for transport returned to the beats, reduced from 7 to 4 on 1 April.

Numbers on the Depot payroll settled at around 40 including clerical staff and remained at that level to about 1986.

The redundancy in 1972 had a great influence on thinking related to staffing and recruitment on the part of management and staff throughout the District. Improved methods both in the forest and the Depot from that time on led to major improvements in productivity which kept pace with increasing work programmes in spite of losses due to natural wastage. Very few men were recruited and by 1980 virtually a complete embargo on recruitment existed.

In the forest the increased use of Hydratongs for extraction and the use of effective mechanical and chemical methods used to restock and maintain clear fell areas together with a general overall increase in productivity led to more staff surpluses. Many were older men with long service and as developments in the Depot had achieved major reductions in the manual effort required in many of the operations, losses of staff from the Depot tended to be filled by these older men from the forest to the point where in December 1983 33% of all Depot staff were aged 58 and over.

The new plant demanded less manual ability but considerable mental agility and manual dexterity in the key operator positions, attributes not always found particularly among older men with a life times manual labour behind them. This situation was improved to some extent by the use of the Job Release Scheme which was introduced to encourage men of indifferent health over the age of 60 and fit men at various ages over 60, depending on the rules current at the time, but not yet 65, to retire early by offering payment of around £60 per week up to the age of 65.

The principal condition was that they must be replaced by someone off the unemployed register. It was however acceptable to use a chain of moves so long as a direct link could be demonstrated between the man retiring and the recruit.

From 1982 over a period of 5 years, 6 men retired from the Depot on Medical Job Release and a further 3 on normal job release resulting in the recruitment of 9 younger men some to the forest and some to the Depot, thus improving the age structure in both situations. At least 2 more retired under the scheme before 1979.

There were many constraints and difficulties but persistence paid to the benefit of the men concerned without any doubt and in my opinion to the Forestry Commission. Many of the recruits are still chainsaw operators in the forest and all but 4 of the 11 men who retired are still alive enjoying their retirement in 1989.

From about 1985 men started to consider retiring before the age of 65, some in spite of legislation aimed at preventing people who retired voluntarily from drawing the dole for an extensive period. Vacancies created by those retirements and other natural wastage were not filled because the future prospects of the Depot were beginning to look questionable. Maintaining full production became increasingly difficult with almost no back up available for long periods. Older men continued to be transferred in from the forest and they did Trojan work on ancillary lines converting and peeling fencing stakes and many did regular stints in the main production gangs when circumstances demanded it.

Demarcation had never been a problem and the flexibility which resulted was never more beneficial than during this final period.

In December 1986 instructions were issued by John Oakley, FC Marketing Officer at HQ, as a result of British Coal's insistence that all pitwood was to be bundled starting as soon as possible suggesting 2 weeks as being a reasonable period in which to get everything organised! This was a labour intensive operation and there was no possibility of coping with existing staff. Permission was given to recruit 2 young men and they started early in March 1987.

The Working Party considering the future of the Depot was already in being and as a result of its recommendations closure was announced on 16 November 1987 and all staff issued with redundancy notices on 1 December 1987.

Rumours had been rife making it extremely difficult to maintain moral and motivation before the announcement. After the announcement with all the attendant concern for the future no deterioration occurred to the credit of all concerned.

Necessary production was achieved and the run down in staff completed as required by 31 March 1988. Recruitment of the 2 men for bundling knowing the job might not continue for long was not done lightly.

Unemployment was very high at the time and it was felt that employment even if only for a short period might be considered preferable to unemployment, a view shared in retrospect by the 2 young men concerned.

In spite of all the staff changes particularly in more recent years the average service at the time of closure was 19 years and Hub Reeve, whose Depot service was the longest, started in August 1947, a measure of both the stability and loyalty among workers in the Depot throughout its existence.

They were always a close knit and unified bunch and much of this, I am sure, stemmed from the close company and companionship cultivated by meeting together regularly in the mess building.

Many men remember their time at the Depot with pleasure and say they enjoyed working there particularly in the very early days when pranks and amusing incidents remembered still give rise to a laugh.

The Depot was always well represented in any sporting events organised within the forest. One annual fixture instituted by Martin Sayer was the BCD V The Forest cricket match played on the Mundford ground for the Pit Prop Trophy early in September.

Internal competitions organised by the men within the Depot included snooker, darts, fishing and in 2 consecutive years a half marathon run around the perimeter road sponsored to raise funds for Cancer Research.

Two men lost their wives with Cancer and the response, almost £2,000 raised in the 2 years, was indicative of the spirit which prevailed.

Closure brought retirement for those over 50 and redundancy for those under 50.

This oversimplifies the complications, worries and difficulties experienced by all concerned but fortunately the employment situation was improving and all who wanted a job got one eventually.

Over the full life of the Depot there must have been at least 200-300 men who worked there at some time or other.

Without their sheer hard work, tenacity, loyalty, ready acceptance of change and general good humour the Depot could not have survived as long as it did.

4.3.1 Industrial Pay and Conditions - See Appendix 4.c. to 4.i.

Prior to the start of the Depot in 1946 wages had been rising steadily from 30/- (£1.50) per week in 1919 when the Forestry Commission was first formed, to 42/- (£2.10) per week in 1938. This of course was basic pay for probably a 47 hour week including Saturday mornings.

Little or no piecework would have been available and in practice men were quite regularly stood off for the remainder of the week because "the money had run out" and this could be as early as Tuesday morning.

In 1938 the position was regularised by the introduction of a statutory minimum wage for all agricultural workers, including forest workers.

During the war 1939 to 1945, the minimum rate rose steeply. In 1945 it was 70/- (£3.50) and at the end of 1949 it was 94/- (£4.70) for a 47 hour week including Saturday mornings. A proficiency system had also been introduced during this early post war period under which a Grade II worker received an extra 2/6d (12.5p) and a Grade I worker 5/- (25p). Tradesmen and specialists such as tractor drivers were also paid lead rates.

The somewhat informal relationship which existed between the Commission as employers and the Trade Unions representing their workers was regularised towards the end of 1944 by the formation of the Trade and Industrial Council which first met in September 1944. Basic pay continued to rise steadily and in 1953 leave allowance improved to 21 days per year including 3 days privilege holiday and public holidays.

In 1958 the working week was reduced by one hour to 46 which permitted a 5 day week February to October. A further reduction to 45 hours from February 1960 followed by another reduction to 43 hours in July 1961 finally established a 5 day week all the year round.

Hours were further reduced to 42 in 1963, 41 in June 1966 and finally 40 hours in February 1970 by which time basic pay was £13.9.6 (£13.47 p) and the average wage nationally £18.12.0 (£18.60p).

In addition to rises in basic pay through the 1960s lead rates had been improved and in October 1964 new grades, Forest Worker and Skilled Forest Worker replaced Grades I and II.

In 1971 annual leave was increased from 2 to 3 weeks and by April 1973 basic pay was up to £18.52 and the national average was £27.06.

The April 1973 increase was the first within the pay freeze period imposed by Government in an attempt to contain inflation. This persisted using various devices almost to the end of the decade.

In 1975 females were granted equal pay and the grade of Forest Craftsman was introduced. Forest Craftsman status was granted on achievement of 3 requirements, age 20 or over, 3 years' service and trained and certified competent in any 3 of a number of listed skills. In the Depot the skills list was specific to the Depot alone, a situation which took some time to achieve.

1979 brought a reduction in the percentage used to calculate the price per standard minute to 126 % where work study tables were used to fix piecework rates. This was followed by a further reduction to 123 % in 1980.

Around 1980 an annual leave supplement of £1.60 per day or £8 per week was introduced, which together with a fall back guarantee introduced in 1982, served to improve annual earnings.

Wages and conditions negotiated nationally applied equally in the Depot but piecework and bonus payments were in use from very early on where possible.

George Button (1948 to 1955) is remembered as a man not averse to peeling for half a day to set a fair rate for the job.

George Backhouse reports in the FC Journal No 25 1956(1) that loading accounted for one third of all the man hours all of it being by hand and not easily priced bearing in mind the multiplicity of products and sizes even in those days.

With the establishment of a Work Study section in 1960 Brandon Depot very quickly became a focus for their attention with a comprehensive set of standard times for cross cutting a wide range of products by liner sawbench appearing in June 1961.

These I feel certain were the first apart from the Kingslaw Peeler Times dated April 1961 but many more followed throughout the 1960s as more mechanised methods of handling, peeling, cross cutting and loading were tried and introduced.

In 1966 2 shift peeling on the Cambio peeler was introduced and they also worked until 4 pm on Saturday. Prior to this as far as I can ascertain overtime was by no means a regular feature of the working week.

In 1967 Hywel Thomas was transferred from Wales to the Depot at his own request and was delighted to find he was able to earn £25 per week which compared very favourably with earnings in Wales.

By 1970 the FC national average wage was £18.60 which confirms the generally held belief that Thetford earnings including the Depot were generally higher than most other parts of the country.

In 1954, when at Parkend Forester Training School, I met fellow students who had been earning £11 per week draining in Thetford when basic pay was £6.10. However it should be remembered that by this time Thetford had a skilled workforce with a considerable number of years' experience behind them, with a large and increasing production programme and may be the most telling, very little wet time.

There had always been a certain amount of interdependence between the various operators but on a liner bench 2 men worked as a team. From 1971 production started to become a team effort not only on the production line itself but on the part of the men feeding poles and taking away products. Piecework rates were devised through Work Study for the line itself but not for the ancillary handlers and loaders, because they worked to a number of production lines and loaded customers throughout any day.

Out of this situation there developed a pay structure based on a bonus rate per hour. Percentage enhancement on basic rates were agreed for all regular jobs other than the main production processes for which standard times or output guides existed.

At the time of annual pay increase relativities were discussed with the Trade Union representative and minor adjustments agreed but within the total cost of the pay agreement. In other words the available "cake" might be shared slightly differently to benefit one section or another but the benefit could only be awarded from contributions from the remaining sections.

From about 1971 overtime working increased and by 1979 2 hours' overtime on each of the 5 working days on all the peeling and conversion lines was a regular feature and from this grew a reputation for high earnings.

In fact piecework earnings in normal time were around 180% of basic craftsmen's pay compared with 200% to 210% for chainsawyers in the forest.

As the redevelopment progressed all the staff were involved in selection, retraining and consolidation, payment for which was on nationally agreed lines, usually average earnings based on individual past earnings.

As new teams were built up anomalies started to occur with a number of men in one team being due different rates. Mean rates were agreed and finally a new interim pay structure was devised and agreed within the Depot and accepted by FDM and Conservator in June 1983. Again it was based on enhanced hourly rates but the overall outcome retained incentive bonus earnings at around 185% above craftsman's rate.

Subsequent events, the miners strike and the rundown which following ultimately ending in closure, preventing the introduction of payment based on Work Study Output Guides which were produced for the peeler and sawmill.

Swing line prices were modified and stepped bonus rates introduced on the fencing lines.

Throughout its existence the Depot had provided a living for those who worked there which compared very favourably with other available work in the area.

Finding jobs which paid as well for similar hours with equivalent conditions was virtually impossible once the Depot had closed.

4.3.2 Trade Unions

From the very early days, although never formally a closed shop, all who worked at the Depot were encouraged to become members of a Trade Union.

Two Unions were represented, the Transport and General Workers' Union, the TGWU, and the National Union of Agricultural and Allied Workers, the NUAAW. These 2 Unions remained separate until 1983 when the NUAAW became a section within the TGWU.

In my experience by far the greater majority were members of TGWU and I believe this was always so, although the balance may well have been the other way in the forest.

No formal consultation took place on a regular basis until the local Joint Consultative Committee (JCC) was set up probably in the early 1950s.

Len Earith was the first shop steward and initially the Depot had a works committee and was a branch in its own right. Stan Cator took over after a very few years and remained the Depot representative on the JCC until he retired in April 1987, having served as Vice Chairman for 30 years.

Together with Herbert Largent who played a major role on behalf of NUAAW they were dominant figures at local, district and national levels over many years. Jack Boddy, who later became President of the NUAAW regularly attended JCC meetings up to the early 1970s and it was about this time that Arthur Mills became involved locally as full time District Organiser for the TGWU working from Bury St Edmunds. He finally became National Forestry Officer for the TGWU and served on many national committees as Trade Union representative.

Stan Cator who was also a JP on the Mildenhall Bench and latterly Chairman until ill health forced him to retire, was awarded the BEM in the 1987 Birthday Honours List and later that year the TGWU awarded him their supreme award, the Gold Badge.

With men of this stature involved in local trade union affairs I think it fair to say that, to some extent at least, Thetford led the way in establishing good consultation procedures which resulted in good labour relations.

Bargaining was hard but attitudes were generally moderate and reason prevailed throughout even during the very difficult period of pay restraint in the 1970s.

As time progressed and the structural organisation of the forest changed from 17 beats down to 4, so did the constitution of the JCC.

Each beat together with the Depot, Estates and the Workshop had its representative.

Before the JCC with 17 beats numerous difficulties arose from the differences in prices and rulings between beats.

Through the JCC a lot of effort was aimed at achieving parity between beats and to a large extent this was achieved. Throughout the Depot played its part through its JCC representative but matters relating to the Depot alone were discussed and resolved in the Depot.

On only a very few occasions, in fact Stan Cator remembers only 2, did men actually stop work. He is unable to remember the full circumstances but the stoppages were short lived, one in 1954 and another concerning payment for shift working on the Cambio Peeler in 1966.

In the event of a problem arising on either side discussion and negotiation would always be between the Manager and Stan Cator as representative. He would then take proposals back to the mess building for consideration by all the staff. Discussion could be very heated at times but with Stan presiding reason and moderation normally prevailed.

Before he retired Stan schooled his successor, Archie Hurrell, who very soon found himself having to cope with closure.

Great credit is due to Archie Hurrell for the way he handled that very difficult situation with great fairness, understanding and moderation proving himself a very worthy successor to Stan Cator, particularly as this was the second time he himself had been made redundant from the Depot.

As Manager of the Depot for the last 9 years of its existence, during which time major changes and finally closure took place, I have no doubt at all that the presence of a unified strong but moderate Trade Union organisation was beneficial to management and that it contributed greatly to any success that was achieved.

4.3.3 Training

With only hand tools, liner saw benches, the Kingslaw Peeler and a few tractors for almost 20 years there was little call for formal training, nor indeed was there any formal provision within the Commission to provide it. In 1961 the Forest Worker Training Scheme started as the forerunner to the Education and Training Branch first mentioned as such in the 1966 Annual Report. The Forestry Training council did not come into being until 1971 some 5 years later.

Despite the advent of more formal Forest Worker training generally, training in the depot, particularly from 1970 on when production lines unique to BCD were being developed, had to be in house because trainers with suitable experience were not available.

The Health and Safety at Work Act (1974) prompted changes including the requirement that certificates of competence were essential before a man was permitted to use any sort of machinery, plant or equipment. Gradually trainers with suitable experience gained from courses outside the Commission became available.

By 1980 when the new peeler plant was almost complete, aptitude tests were becoming a part of the Education and Training Branch Service. All operators were to be selected from within existing Depot staff with no recruitment. An aptitude test for the peeler was drawn up, volunteers invited and all were tested. Four were selected, 2 regular and 2 as back-up operators. Training was by the local instructor Graham Robertson and a consolidation period followed. A similar exercise followed with the sawmill, again successfully.

Training of men transferred into the Depot and of additional back up operators by trainers from the local Education and Training Branch continued as required. Occasionally it was necessary to bring in other trainers with particular skills for items such as saw benches, knuckle boom cranes and the Coles Crane.

Even in the final year or so equipment such as the Atlas loader used in the pitwood bundling operation arrived and its use was authorised for operators with years of experience with numerous other loaders, without formal training.

4.3.4 Safety

Reference to accident records going back to 1966 clearly indicated a preponderance of sprains, bruises and strains mainly to backs and there is little doubt that this was always the case.

For the first 10 years at least, every pole felled had to be carried out, hand loaded and some were off loaded by hand from flat bed lorries and articulated trailers. For almost the first 20 years every pole had to be lifted onto a liner saw bench for conversion and the products hand stacked and subsequently handled once, or twice more in the case of pitwood by rail, when loading. As already stated George Backhouse reports that in 1956 one third of the total man hours were engaged in loading alone.(1)

As the size increased so the problem increased until men started to refuse to carry the larger poles. Both in the forest and the Depot a short butt length was cut from the larger poles but this only served to give adequate weight reduction for a relatively short period.

The arrival of Hiab Cable Cranes on the lorries around 1957 helped with loading in the forest but the technique required to swing the poles onto the lorry played havoc with stomach and back muscles. These gave way to Hiab grapple cranes with the facility to load and unload not only poles but the larger products.

Chainsaws were occasionally used in the Depot to reduce the largest poles from around 1954 but it was not until 1964 that chainsaw conversion became the standard method of conversion for the larger poles.

Despite this very gradual reduction in the vast amount of heavy lifting it really was not until 1970 when Graham Hobbs constructed ramps using old railway line which could be loaded by Volvo Front End Loaders, that significant reductions were achieved.

Fred Platt working with Work Study at the time devised a hydraulic lift system powered by a Petter engine for use with liner benches but its operating speed was slow and the construction of the Pendulum Saw line in 1971 superseded it.

There is no doubt that a quarter of a century of heavy lifting left its mark on many of the men who worked in forestry but particularly those who worked in the depot and it seems likely that the appalling ground conditions in wet weather made its own contribution to the injuries that did occur.

Beside the frequent sprains, bruises and strains, cuts to fingers while using liner benches occurred quite frequently. These were, on occasions recorded as being "to the bone" or resulted in the loss of the top or even a greater part of a finger.

New legislation prohibited crosscutting poles on a liner bench because the pole was pushed against the saw. This prompted the design and manufacture of 3 treadle operated pendulum or swing saws which did satisfy legal requirements. They were designed locally by Graham Hobbs and Mike Aymes the Depot fitter and came into service in 1975. From that time liner benches could only be used for pointing stakes.

By 1970 more account was being taken of health and safety and in Thetford chainsawyers were prominent in a national investigation into Vibration White Finger VWF or Reynaud's Phenomenon because they represented a relatively large population of regular users over the maximum possible period. Measures introduced to improve matters as a result of knowledge gained included heated handles and shock absorbers on the saws together with a generous issue of special chainsaw gloves, specially designed to keep hands warm and dry.

The effect of noise levels on hearing also received a lot of attention and as a result levels at every work station were measured and where necessary wearing of ear protection made obligatory.

In 1973 a scheme to provide protective clothing was introduced. Wet weather and safety clothing considered essential for the duties performed by the various grades were identified and agreed for free issue with reissue on a replacement when worn out basis. Other clothing considered desirable but not essential became available at cost.

The Forestry Safety Council came into being in 1971 and by 1975 they had started to publish Forest Industry Safety Guides. Check lists followed later and these Guides were very quickly accepted as the standard for safe working practice in forestry operations throughout the industry and this included minimum requirements in protective clothing.

The major milestone in health and safety at work was the passing of the Health and Safety at Work Act 1974 (HASAWA). This required Policy Statements in 3 parts to be written for every work place, Part III giving detailed description of the work place and processes, provisions and responsibilities. See Appendix 4.j.

Appointment of a Safety Representative by the workforce became obligatory as did regular consultation and inspection. Stan Cator was appointed as the first Safety Representative to be succeeded, on his retirement in 1987, by Archie Hurrell.

HASAWA placed obligations and responsibilities on employers and employees which represented a change in emphasis where previously legislation had been aimed almost exclusively at employers. Workers were obliged to wear protective clothing and equipment agreed and specified for each operation.

The Health and Safety (First Aid) Regulations 1981 which came into operation in 1982 required employers to make adequate provision in equipment and training should employees become ill or be injured at work. Provision was graded according to numbers employed. At the Depot adequate equipment was kept in strategic positions such as the office and main plant control cabins.

Basil Branch succeeded on his retirement by Stephen Frost, the weighbridge operator, was appointed as the First Aider or Appointed Person. They were trained by the Red Cross and attended revision courses every 3 years.

All staff attended a one day first aid course covering emergency treatment held in the mess room every 3 years.

Another regular arrangement with the local GP was to provide the opportunity for anti-tetanus injections at work at the prescribed interval of 5 years.

One of the primary objectives of the redevelopment was to improve working conditions making them less arduous and safer. Throughout the period of redevelopment tripartite consultations between the Commission, Mike Edwards the designer/constructor and the Health and Safety Inspectors took place in relation to each new plant with a final inspection on completion.

The incidence of accidents was much reduced subsequent to completion. Strains due to lifting became almost a feature of the past as did severed finger tips. Some accidents were inevitable where so much heavy timber was continuously handled and processed and occasionally the need for further guarding became apparent particularly in the sawmill but nowhere to any large extent.

Much improved mess room facilities including central heating, a kitchen and drying room contributed greatly along with remote processing, sorting and stacking only the smaller products manually, all under cover, and virtually no hand loading made the Depot a much safer and better place to work.

4.4 Mechanics and Fitters

Responsibility for all machinery was always with the Workshop Manager at Santon Downham and initially maintenance and repairs were done by a Mobile Mechanic, Cyril Knights, who came to the Depot originally as a lorry driver. He was responsible for liner benches only.

Tractors and lorries were taken to Santon Downham initially but presumably once the Black Nissen Hut Workshop had been erected more was done on site.

Billy Lake worked on items other than liner benches until the number of chainsaws in use throughout the District warranted a full time mechanic which he became, working in a special workshop in the Depot. Peter Stannard followed Cyril Knights who went out of the Depot but remained a mobile mechanic until he retired.

Unfortunately Billy Lake died in service and Mike Aymes became chainsaw mechanic in his place. He later became full time mechanic for the Depot and Robin Tuck took on the chainsaw job. He subsequently took on radio repairs too.

Towards the end of the redevelopment a radio engineer, Geoff Rudd, was posted to Thetford relieving Robin Tuck of this part of his duties.

Much of the routine maintenance other than operator maintenance on the peeler plant and sawmill was to be done by M I Edwards as were repairs which significantly reduced the workload for the mechanic. Robin Tuck was given the dual role of chainsaw mechanic and Depot mechanic, a situation which continued up to closure.

5. HARVESTING IN THE FOREST

Inevitably right from the start there was always a close interaction between operations in the forest and the Depot. Changing methods and developments in either were bound to exert influence on the other.

5.1 Fell and Sned

As the result of a chance remark to Esmond Harris then Director of the Royal Forestry Society, regarding this history, he suggested I write to Phil Gough who had been engaged in thinning research at Thetford during the war. This I did and received a letter acknowledging my request with promise of notes to come. I heard no more until Mrs Gough rang in October 1989 informing me of the sad news that Phil had died peacefully while on holiday in Scotland shortly after his 80th birthday. However Mrs Gough had found some unfinished notes together with my letter and asked if I was still interested, which of course I was, and I received them a few days later. See Appendix 5A (2).

The receipt of these notes changed my understanding regarding the start of thinnings in that the earliest thinning in the earlier plantings (the Deer Pen on High Lodge) started around 1942 to provide larger pitprops. As the notes report, consideration was given to clear felling the better earliest CP stands but the alternative suggestion of line thinning removing 2 lines and leaving 2 was adopted with Lord Robinson's approval following a site visit. The notes are of great interest being the earliest from someone who was working at Thetford. They give an insight into early techniques and problems experienced at that time. Nevertheless my original understanding that that thinning started in earnest around 1945 remains true and my impression is that all compartments were planted solid. Thinnings was selective, marked by gangers and racks one or 2 rows wide spaced at 2 chain (40m) intervals together with half way racks at right angles to the overall rack system were all established at first thinning.

Bushman or bow saws with blades which had to be set and sharpened were used for felling and Yorkshire billhooks were used for snedding, standing astride the felled pole.

In November 1960 instructions contained in the Thetford Conifer Management Handbook, written by the Conservator George Backhouse, required that "where butt diameters are greater than 9 inches crosscut saws will be used". The context suggests this was to ensure square cut butts.

Felling continued in this way for 17 years, the only significant change in equipment being the introduction from Sweden of the Sandvik hard tip bow saw blade which gave improved performance and was thrown away when blunt, they were not normally resharpened or reset.

Chainsaws had been around in development from about 1952 but it was not until 1962 that a small number of men bought their own saws believing that the cost would be more than covered by increased production and therefore earnings. They had been encouraged in this view by Dave Patterson who was Tool Instructor at Thetford.

Among the first were Olly Garrod, Jack Garrod, Nelson Young and Jack Dixon. They purchased a Danarm DD8F between them and worked as a team with only one man felling. The remaining 3 did the snedding carrying to rack and peeling. Light axes or the Yorkshire Billhook continued to be used for snedding as the DD85 and its successor, the DD110, was too heavy and cumbersome. Throughout this period payment was by the pole in the rack.

Plate 3 Racking 1949. Felling by bowsaw, axe snedding.

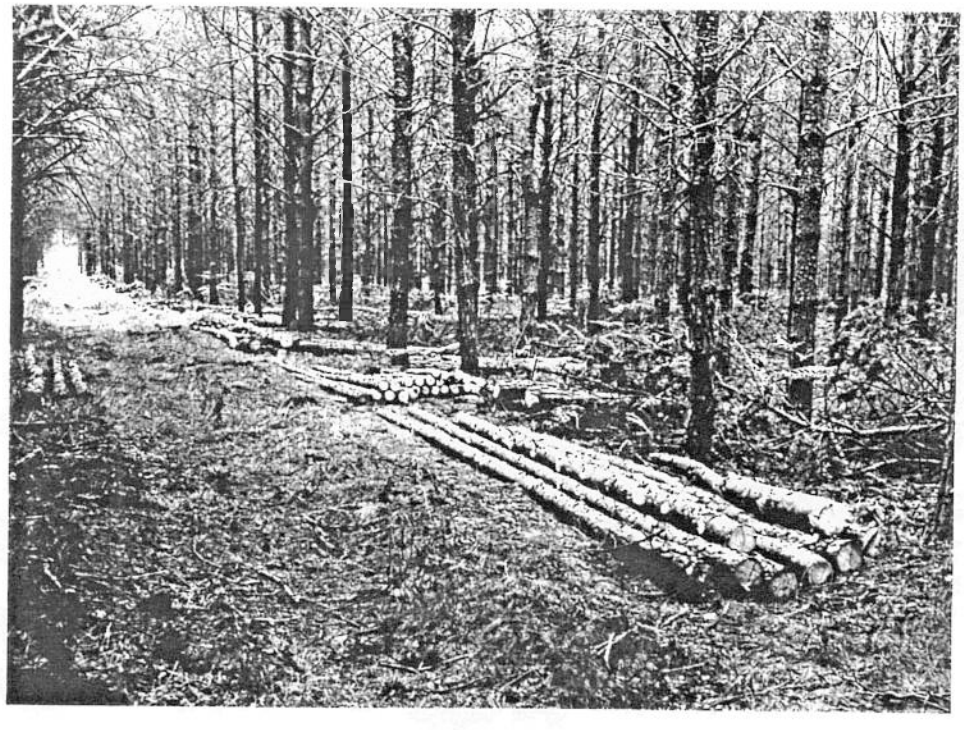


Plate 4 Unpeeled poles extracted to racks, either carried or later by tractor equipped with Thetford Tongs which were gradually replaced by Hydra tongs from 1979.

In 1965 the Commission issued chainsaws to most, if not all, of the fellers at Thetford. I think it possible that a few continued to use their own and they were paid an allowance based on information on costs fed to HQ by men who had been using their own saws previously.

The saws issued were still heavy and too cumbersome to be used for snedding for which light axes and Yorkshire Bills were still used. Yorkshire Billhooks had been in use for many years both for brashing and snedding. Although few accidents occurred involving York Bills they were considered unsafe and light short handled axes provided an alternative. These shorthandled axes were introduced, again from Sweden probably in 1960/61, and initial reluctance gave way to ready acceptance when a Swedish feller from Sandvik named Vidar Caarlson demonstrated bowsaw felling and axe snedding at High Ash.

From 1965 on the Swedish example was very much to the fore and improved designs in Swedish saws resulted in the start of Thetford's long lasting association with Husqvarna.

By 1970 developments in design were such that chainsaw snedding was the norm although axe snedding rates were still available in the Standard Times. Saws got smaller and lighter and productivity continued to rise. The clear felling programme was well underway by 1970 and annual volume felled per man was around 2,500m3. In 1989 with organised felling and thinning still with a chainsaw it has been 5,000m3 per year and with the introduction of end product working and new Output Guides the prospect is for even greater increases in productivity.

Somewhere around 1965/66 tariff teams were used to mark and tariff both thinnings and clear fells and payment was based on the average tree.

Throughout the 1970s various aid tools were tested, many originating in Sweden, and some like the breaking bar, pulp hook, loggers tape and belt became standard issue.

In 1974 the Osa 704 Processor came to Thetford, the first in the country and this was followed by trials with the Sifer and a number of other processors. Trials of harvesters followed but in every case the quality of snedding tended to be inadequate for Depot use, an important factor as 30% of all the volume felled went through the Depot.

Now the Depot is closed the snedding factor is no longer of any significance, although the performance of current machines is much improved in this direction.

5.2 Primary Conversion at Stump

In the early first thinnings most trees were topped at 3 inches diameter leaving a smallwood pole.

As tree size increased it became necessary to cut a length from the butt end to reduce the weight for carrying out.

As far as I can establish the Local Volume Tables were introduced around 1953. This allocated poles to colour coded classes by minimum butt diameter under bark and length assuming 3 inch top diameter under bark. The classes and related colours were A - red, B - blue and C - green.

Extracts from the Conifer Management Handbook showing instructions for piecework thinning, written by George Backhouse in 1960, are shown on pages 42 and 43. Local Volume Tables and Piecework Rates are shown on page 48 .

This system became quite famous and it lasted until the mid sixties when payment by average tree replaced it.

With the purchase of a Cambio peeler in 1963 peeling in the pole length started in the depot and this influenced cutting patterns and work in the forest generally. Once felled, trees were measured with a loggers tape and cross cut into sawlogs, BCD poles called Cambio poles and bent poles as snedding progressed.

The BCD poles came to be known as Long Butts, Random Butts or Multiples and Cambio Poles. In thinnings small poles continued to be produced which also went to the Depot.

FORESTRY COMMISSION - EAST ENGLAND CONSERVANCY

THETFORD CHASE, THE KING'S AND SWAFFHAM FORESTS

PIECE WORK THINNING

Summary of Instructions and Conditions for Payment of rates.

1. Employees may fell only those trees which supervisory staff indicate to them for felling. Blazing is the usual indication.

2. Stumps will be cut low, and treated against Fomes infection within 3 minutes of felling.

3. Saw-cuts, including felling cuts, will be made as squarely across the poles as possible. Where butt diameters are greater than 9 inches, cross-cut saws will be used.

4. The rates for butts assume that trees will be correctly felled without splitting, and that any axe-work or wedging will be undertaken as necessary.

5. Poles are to be butted at 6 inches diameter under bark if they will yield a minimum length of 9 ft to that diameter.

6. If, after the removal of butts 9 ft and up by 6 inches diameter, under bark, or when such butts cannot be obtained, poles are still too large to fall into the C class, 6 ft, butt lengths are to be removed until the pole lengths are reduced to the C class.

NB. C and B poles must not be reduced in size by the removal of 6 ft lengths.

7. Any pole which, in being reduced by the removal of a 6 ft length, falls from above the C class to the B class or below will count for payment as a B pole.

8. A, B and C poles must have a minimum top diameter of three inches under bark.

9. All knots will be trimmed with the axe in the direction of the growth of the tree so that no snags would be left after peeling whether or not the poles are peeled in the forest.

10. Poles which will not yield a minimum length of 5 ft to 3 inches top diameter under bark are Small Poles.

11. Long tops and Long Small Poles will be trimmed out to not less than 1 inch diameter, and short Tops and short Small Poles to not less than 2 inches diameter.

12. Tops and Small Poles will be sorted at rackside into lengths 5 ft to 6 ft and lengths 10 ft and over. If the Forester so instructs, in Compartments which would yield less than 20% of tops over 10 ft, all tops will be cut to lengths not exceeding 6 ft.

13. All produce brought to rackside will be stacked neatly in a manner which will be best for mechanical loading. By this is meant that produce will, when it is to the advantage of mechanical loading, be stacked on pieces used as bearers, so that wire slings can be passed round convenient sized lifts. Butt ends will be faced in the easiest direction for loading.

14. Long butts and C poles left at stump for extraction by tractor will be felled so that wherever possible their butt ends face obliquely inwards in 'herringbone' fashion towards the rack or ride into which they will be pulled.

15. Lop and top will be piled in orderly fashion clear of racks and rides. (Any special racking or other handling of lop and top and brash for protection purposes will be paid for separately).

16. Employees may peel only those poles and butts which supervisory staff indicate to them for peeling.

G W Backhouse
Conservator
November 1960

5.3 Extraction and Sorting

For almost 20 years to around 1962 almost everything was carried out and stacked at rackside. Initially there were only 4 categories of pole, pitwood poles with butt diameters above and below 4 inches, ie bent or cellotex poles and small wood poles. Once in the rack the gangers would tally up marking those to be hand peeled.

Small wood poles were paid a price per 100 lineal feet necessitating sampling of 20 poles for length, but this was changed to payment per pole subsequently, a change welcomed by the gangers. The butt lengths produced as tree size increased were also carried out until men started to refuse to attempt to carry them. Some poles required 6 men to carry them out. It seems that tractors started to appear in the early fifties and various devices were tried to assist in extracting the bigger butts. These included chains, winches and sulkies but the first important development was the Thetford Tongs. Nobody is certain when development started but it could have been as early as 1952. The idea was based on the principle of hand tongs. A tractor driver named Fred Newell together with Wally Rosher and Hedley Hills, the local blacksmith, combined to produce the first one which was mounted on the tool bar on the 3 point linkage of a Ferguson Tractor. The driver was able to drop the linkage, grip a single log in the tongs, lift the butt and skid it out to rack or ride.

Other devices such as the Alice Holt Draw Bar were tried but from around 1952 through to 1969 when Hydratongs first appeared the Thetford Tongs were increasingly used until large fleets of Ferguson tractors specially plated for protection extracted all but the smallwood poles which were too small for the tongs. They worked on a cantilever principle and had sharp points which dug into the heavier logs or poles as they were lifted.

Plate 5. Single Pole extraction by Thetford Tongs.

Plate 6 Stacking poles at rideside with stacker tines mounted on 3 point linkage arms. Used in conjunction with Thetford Tongs.

Plate 7. Early Hydratongs extracting sawlogs in tushes.

Plate 8. Poles were hand loaded well into the very late 1950's.

Stackers were a later addition which enabled the tractor to push and lift heaps of poles and sawlogs into tidy stacks which facilitated lorry access up the racks. They consisted of 2 blunt pointed metal bars attached to the draw bar on the three point linkage allowing the tractor to be reversed onto a stack pushing and lifting at the same time.

The first Hydratongs were developed by Work Study in 1969. Fred Platt, in conjunction with J H B Implements at Ickburgh, did most of the original work.(3) Capacity was 1 ton and outputs ranged from 4.7 to 9.2 cubic metres per working hour depending on travel distance and tree size in full extraction.

Initially Thetford tongs continued to extract stump to rack building tushes, a number working to one Hydratongs which usually extracted sawlogs and bent poles to ride side leaving BCD material in the rack for lorries.

There was insufficient power available on the early tractors used, to grip and lift at the same time. The use of tractors with multipower overcame this problem. Gradually Thetford Tongs were phased out until by the mid seventies few, if any, were still in use.

The arrival of Hydratongs added to the earlier introduction of chainsaws and chainsaw snedding were the principle factors leading to the 1972 redundancies.

Forwarders such as the Massey Ferguson Treever, Highland Bear and Wartsila were used at Thetford around 1968-70, the last 2 being used in trials extracting firstly 2 metre Weyroc billets and later BCD poles to parked articulated trailers for delivery to the local Weyroc factory and BCD. The introduction of organised felling and thinning techniques coupled with forwarder extraction from about 1985/86 started to create sorting problems in relation to BCD material.

Two products would have been ideal. More was possible but the requirement for graded sawlogs, at least 2 BCD products and pulp was really more than the system could cope with. The divisions between Cambio poles and long butts became increasingly blurred and sorting for quality deteriorated.

With the closure of the Depot the product mix was considerably simplified allowing further moves towards increased mechanisation, improved outputs and reduced costs.

By 1989/90 the Harvesting Hydratong Tractor fleet is down to 3 from 50 only 4 years previously, replaced by 9 forwarders.

5.4 Peeling

Although a proportion of the pitwood produced in the earliest days was unpeeled, the demand from the pits in England apart from Kent was for peeled and seasoned pitwood.

From very early on poles were handpeeled in the forest usually after they had been carried into the rack and marked for peeling by the ganger. There was no point in peeling poles not suitable for pitwood and woodwool production.

Peeling was by peeling spade with the pole lying on the round or with a draw knife sometimes bent to a curve to fit around the pole which would be raised to a suitable working height on peeling stools.

Polish workers are said to have preferred the draw knife. Initially some peeling spades were just modified and suitably sharpened garden spades but various specially designed spades were available and 2 models persisted into the seventies and eighties for peeling telegraph poles. One had a solid socketed blade which could be sharpened. The other a Sandvik product had a much thinner blade riveted onto a socketed carrier. Generally the first model was preferred and the sharpening angle was very critical in relation to the user's height and for this reason peeling spades were very personal tools.

Some remember peeling pitprops in the forest very early on and this was done with a draw knife and peeling horse. Later as tree size increased and poles were butted, the short butt lengths would also be peeled with a spade on the ground.

Hand peeling of poles in the forest continued right up to 70/71 when 3000 m3 were peeled in this way

The mobile Cundey Peeler was the only machine peeler used in the forest at any time. It came into use in the late sixties and peeling was restricted to 6 ft lengths for woodwool, Powell Dufryn or for later conversion to pitwood in the Depot.

In 1971/72 6000 m3 was peeled by Cundey in 2 metre (6 ft) lengths and in September 1972 Brian Hibberd, District Officer Harvesting and Marketing, forecast the need to peel 6500 m3 in the following year when putting a case for a second Cambio peeler.

5.5 Secondary Conversion at Rack or Rideside

Having made the decision in 1946 that all conversion would be in the Depot, for at least the next 20 years, this continued to be the case. Every pole cut in the forest was transported to the Depot for conversion. I am sure isolated instances of conversion at rack or rideside using a bushman saw did occur but it was not until the arrival of the chainsaw into general use in 1965 that an effective and efficient means of converting bent poles into short pulp or chipwood lengths became available.

Prior to this many thousands of tons of this low quality material had been double handled at extra cost. I am unable to establish just how quickly after 1965 that all bent poles were converted in the forest but by March 1970 when I moved to West Tofts Beat it was total.

This development must have been fortunate because with increasing annual cut, space at the depot would have been at a premium. As it was the sawlog element sold ex forest was increasing which together with the bent pole element by then must have amounted to 50% of the total.

In 1970 the principle products were 37 inch Bowater, 6 ft PIM Board mill and 6 ft Weyroc, a market which was soon to close. With metrication in February 1971 lengths were 1 and 2 metre which persisted for many years.

Bowater gave way to export pulp around 1980 which was cut at 3 m in the main and Thetford stopped supplying PIM.

Kronospan came on stream and their purchase of a new chipper allowed supply in the pole length. In 1989 only 2 metre, 3 metre and pole length are supplied.

Bent poles were normally extracted to lower landings possibly by lorry from rack in Thetford Tong days. Conversion into 1 and 2 metre products was achieved using a measuring rod and scribe. Some worked poles individually but the "Sausage method" was most commonly used in the end.

Two men would restack the poles butts level. Once one pole had been marked a number of poles were then crosscut to the depth of the guide bar length. A device aimed at obviating the mark and measure element was the Vidler bar, a glass fibre rod which fitted onto the chainsaw indicating the correct cutting point.

Considerable problems and reaction arose with attempts to introduce it mainly because of the price cuts which were implied. It was best used for 1 metre and with the demise of that length shortly after its introduction around 1979 it was quickly forgotten.

Once cross cut, like products would be stacked separately ready for hand loading up to 1970. During that year loading both 1 and 2 metre lengths by Hiab Grapple became standard practice.

5.6 Haulage and Delivery

The first lorries used to haul poles to the Depot were taken over from TPD, 6 from Buckenham Mill and another 6 were collected from Blair Atholl using Forest Worker Trainees who had driving licences. They were drop sided Ford V8 Thames 5 tonnes. Others were added until a fleet of around 15 were in use. Loading in the forest was by hand, the fellers assisting the driver to load their own material. Early on, the poles would have been quite small but nevertheless loading to the necessary height must have been very hard graft.

That the lorries were well, or more likely, overloaded, is borne out by stories of the front wheels being off the ground over a short distance when crossing the old hump back river bridge in Brandon High Street.

In the first year or so there were also 2 articulated pole waggons. These also had to be loaded by hand although an iron bar was slotted into the side to provide a pivot to assist with loading. Hand loading persisted until the arrival of lorries fitted with Hiab Cable Cranes.

The first was imported by the Forestry Commission from Sweden and was the first in the country. It was demonstrated at the Royal Agricultural Show which was at Cambridge in that year and subsequently Powell Duffryn took up the UK Agency. No-one is sure of the year but I think it must have been about 1957.

The 193 Hiab Cable Crane had a lifting capacity of 1 ton and was mounted on a new 5 ton Bedford lorry. Ernie Norton, now retired but still living in Santon Downham, was the driver.

By 1962 when Norman Dannatt first became involved at Thetford, working as Work Study Officer with the East of England team based at Thetford, he remembers there being 12 x 5 ton lorries equipped with the 193 Hiab Cable Crane. It is possible that the 193 was preceded by an earlier model 192 but certainly all 12 were 193s by 1962. Each lorry was equipped with suitable timber tongs, rope slings and a driver's mate. The tongs were used to assist with loading which was also the principle function of the driver's mate. The load was built up in "lifts" for the Coles Crane, contained in pairs of rope slings ready for offloading in the Depot. The mate may have travelled with the lorry full time on some occasions but often, as seems more likely, the mate was provided from the felling gang at the loading site as required.

A number of fellers remember being detailed as loader and the consequential frequent interruption to their felling duties.

The successor to the Hiab Cable Crane was the Hiab Hydraulic Knuckle Boom Crane No 172.

These had been agreed as the standard adopted for delivery of pulp from Scottish Forests to the new paper mill at Fort William which opened in 1965 preceeding the introduction to Thetford as successor to the Cable Cranes. Norman Dannatt remembers that there were 2 Hiab Hydraulic Knuckle Boom Cranes equipped with tongs and slings in use when he joined Work Study at Thetford in 1962. Under his supervision Work Study brought the first grapple as trial replacement for tongs and slings. As a consequence the 176 Crane with a longer inner boom and fitted with a grapple became the standard equipment. From the outset the Knuckle Boom Cranes were 2 ton capacity and once fitted with a grapple the mate was no longer necessary.

The first two lorries equipped wih hydraulic cranes and grapples were ultimately driven by Don Cator and Dave Blyth. Wally Rosher, the Workshop Manager, recalls there was some difficulty in making the job pay on the old 1 ton piecework rate and as a result both lorries stood idle for some considerable time until, it is suggested, a change of staff prompted a return to service, this time without a mate.

Plate 9. Lorry mounted hydraulic cable cranes and larger capacity lorries spelt the end of hand loading poles. Note rope slings for unloading by crane.

Plate 10. Early Coles crane offloading unpeeled poles using rope slings inserted during loading.

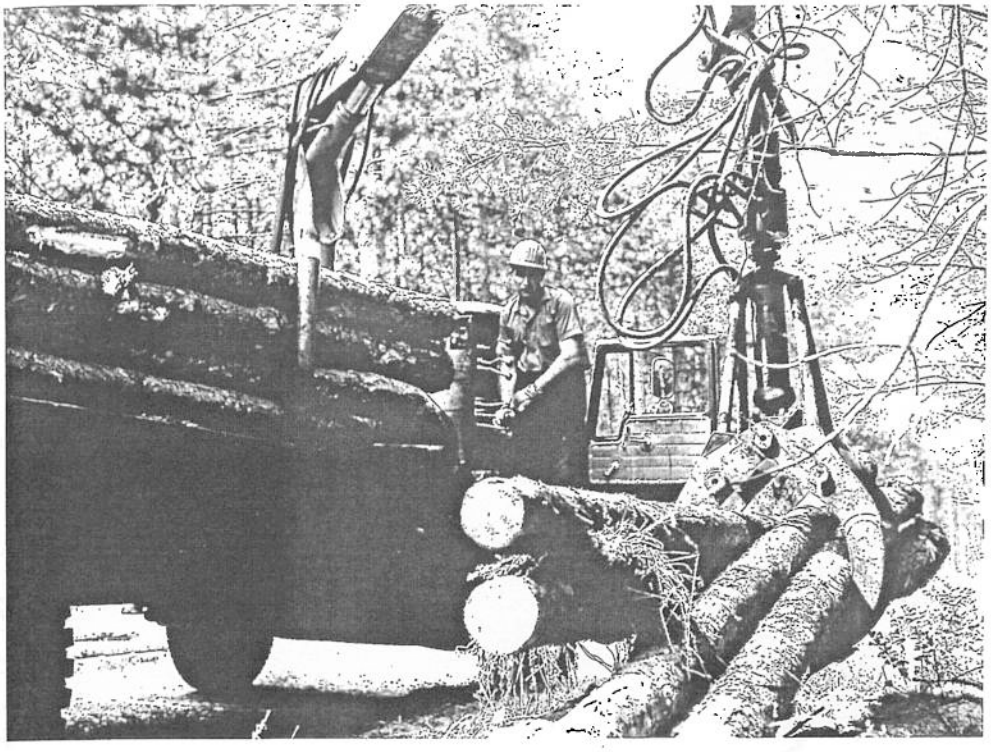


Plate 11. Lorry mounted knuckleboom cranes with hydraulic grapple loaded in the forest and unloaded in the Depot.

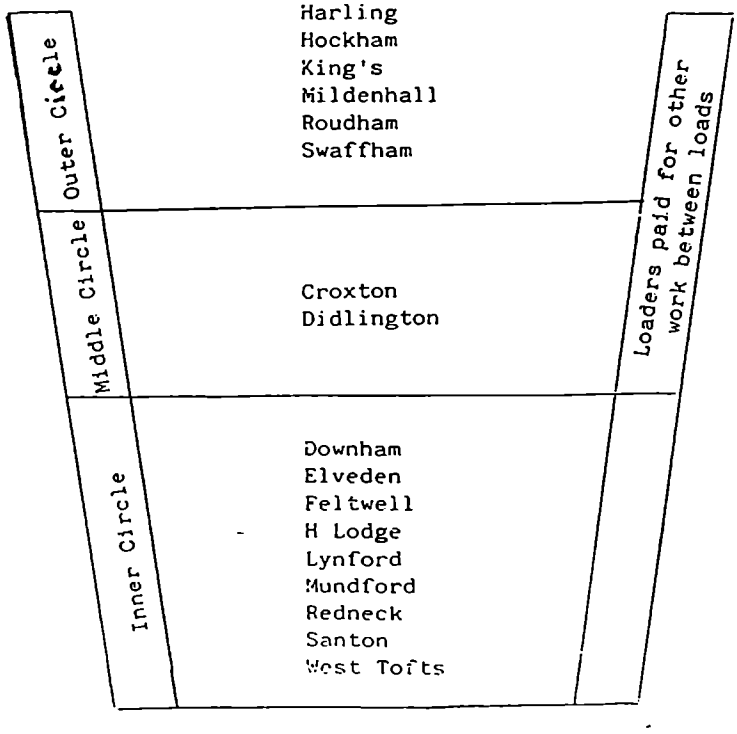
Plate 12. Cab mounted controls gave reduced terminal times and improved driver's working conditions.

PIECE WORK RATES FOR THINNING & FELLING Per ton. Loads over 6½ ton paid at 6½ tons

Class		Av. Vol.	Fell, trim & stack at rackside		Peeling	Loading and Local Delivery Hiab per ton						Stump Treatment	Butt Creosote	1st-2nd thinnings are when the number of A poles exceed 25% of total number of B/C poles
						Inner Circle		Middle Circle		Outer Circle				
			1st & 2nd th	3rd & sub.th		Dr.	Load.	Dr.	Load.	Dr.	Load.			
Tops and Small Poles	5'/6½'	0.2 each	1½d each	¼d each	Nil	2/6d	2/4d	3/-d	1/7d	3/6d	1/7d	-	-	
	10'	3.0 per 100 lft	1/11 per 100 lft	1/2½	Nil	2/6	2/4	3/-	1/7	3/6	1/7	-	-	
A		0.4 each	3d each	3d each	Nil	2/6	2/4	3/-	1/7	3/6	1/7	See amendment sheet	-	
B		1.5 each	8d each	8d each	7d each	2/1	1/11	2/6	1/2	2/11	1/2		-	
C		2.5 each	10½ ea 8½ ea at stump	10½ ea 8½ ea stump	9d each	2/1	1/11	2/6	1/2	2/11	1/2		-	
6½ butts		1.3 each	5d each	5d each	4d each	2/6	2/4	3/-	1/7	3/6	1/7		-	
5" TD. Timber Even ft		Fell Measure	3¼ at stump	3¾d rack	3½d H.ft.	2d-2½d per H.ft. O.B. (Driver/Loader to share rate)							¼d per end	

Fig 2

Loading and Local Delivery Circles
To BCD (Hiab Lorries)



These rates and Working Codes are taken from the Conifer Management Handbook produced by Don Small, District Officer at Thetford, sometime after 1961. The Working Codes continued to provide the basis for lorry rates up to closure. The introduction of grapple cranes later, did away with the need for a loader.

These Knuckle Boom Cranes very quickly demonstrated their superiority, particularly because the driver/operator needed no assistance and the grapple allowed precise placement. Operation was from the side, behind the cab and it had a long reach. At the same time lorry capacity increased to 10 tons.

Up to the introduction of the grapple cranes unloading in the Depot had been either by crane or manual.

The poles were loaded onto rope slings, 2 pairs for 2 lifts per load. The eyes spliced into each end of the slings were attached to the crane hook and the load removed in 2 lifts. The slings would be pulled out by the crane ready for use on the next load. Some offloading was done by hand particularly the articulated pole waggons but it had stopped by 1962.

John Deacon was responsible for offloading these. Pins were knocked out allowing most of the poles to fall off leaving any remaining to be offloaded by hand. As these units were mainly used for the bigger peeled poles it could be a hazardous operation. Haulage into the Depot continued much the same until closure except that with increasingly sophisticated lorries with greater capacity, off road or ride working in the racks became much more difficult so extraction to rideside and perhaps half way rack became the norm. Also Hiab operation from an extended canopy in the cab roof behind the King post and finally from a completely enclosed extended cab eliminated wet time and also speeded up terminal times, there being no longer any necessity to get out of the cab at each move.

Up to 10 lorries were in use when the Depot throughput was at its maximum in excess of 50,000 tonnes, but increasing payloads, improved productivity and reducing throughput brought the fleet down to four.

Closure of the Depot left virtually no work for lorries or so little that it was impossible to justify retention.

One lorry and driver was retained to assist in the wet log store at Lynford as well as to provide loading capacity while stocks remained at Thetford with all harvesting resources in Suffolk clearing the October 1987 windblow.

This last lorry finally ceased to operate early in June 1989 leaving Thetford Forest with no lorries for the first time in 43 years.

Harvesting References

REF NO

(4) FC Booklet No 8 Aids to Working Conifer Thinnings 1962
(5) FC Booklet No 9 Felling and Converting Thinnings by Hand 1963
(6) FC Booklet No 11 Extraction of Conifer Thinnings 1964
(7) FC Booklet No 19 Timber Extraction by Light Agricultural Tractor 1967
(8) Work Study Report No 68/2 and 69/1 Departmental Use Only Front End Loaders 1968/69
(9) FC Research and Development Paper No 86 Census of Harvesting Equipment and Methods 1969
(10) FC Forest Record No 78 Loading and Unloading Timber Lorries 1971
(11) Northern/Southern Work Study Team Report No 66 and Addendum No 1 to same. Felling and Take Down and Timber Handling Aid Tools 1978

6. POLE SUPPLY - INPUT

6.1 Specifications

In any production process where numerous end products result, sorting can be a major problem. Brandon Deport was no exception and much could be done to ease the problem by sorting poles in the forest by quality, mainly straightness, and diameter. The categories tended to evolve with increasing tree size, development in harvesting and processing methods and with changing markets but there were 3 very distinct periods.

6.1.1 1946 to 1953

During this initial period all the poles felled in the forest were hauled to the Depot for conversion and at least for the first few years there were just 4 categories.

a. Large pitwood pole - reasonably straight with a butt diameter >4 inches under bark, minimum top diameter 3 inches ub.

Initially these poles may have been hauled unpeeled to be peeled in the Depot but peeling very quickly transferred to the forest probably for 4 main reasons:-

i. The rougher thicker bark on these larger poles was ideal breeding material for beetles and weevils and removal of the bark prevented this. A 14 day rule was introduced by which time all unpeeled material had to be removed from the forest as remembered by Phil Gough. See Appendix 5a.

ii. It reduced the problem of bark disposal when no market existed.

iii. It increased the pay load on the lorries hauling into the depot due both to the removal of bark and the seasoning which would have taken place depending on the time of year.

Trials were made to test methods of improving the rate of drying one of which was to stand the poles up around a tree wigwam fashion but this was never practised on any scale.

iv. Handling of poles in the Depot was halved.

Selection of poles for peeling was by the Ganger who marked them once carried into the rack. These poles were converted into pitprops and woodwool.

b. Small pitwood and fencing poles - again reasonably straight, butt diameter <4.5 ins, min TDUB 3 ins.

These were converted into small diameter pitprops which would be hand peeled after conversion, together with stake lengths and rails to be supplied to the creosote plant.

c. Celotex poles - bent poles over the whole diameter range not suitable for peeling or pitwood production. PIM Boardmill, Bowater Pulp and Celotex, all unpeeled products were cut from these poles.

Almost anything was acceptable for Celotex where the Boardmill and Bowater specifications were somewhat higher, so a high proportion of these low quality poles went into Celotex.

Pitprops would be produced where possible and these would be hand peeled subsequently.

d. i. Long Tops and long Small Poles - min length 10ft min top diameter UB 1.5 ins. Maximum butt diameter would normally be 3 ins. Stakes, rails and harvest poles together with celotex from bent sections were cut from these poles.

ii. Short Tops and Small Poles - length 5.5 to 6.5 ft min TDUB 2 ins. Conversion of these lengths would be as for d. i..

Each pole category would be hauled into the Depot and stacked separately.

6.1.2 1953 to 1965

Annual volumes increased rapidly as new areas came into thinning and thus demanded efficient and effective methods of assessing volume as a basis for thinning control and payment.

The system devised known as the ABC pole system was introduced fairly early in the fifties but no-one is certain as to the precise time. My guess is that it must have been 1953 or thereabouts. Poles with a 3 inch TDUB were defined by minimum butt diameter and length into A, B and C poles for each of which there was one conversion factor for volume in Hoppus feet.

At the same time the system of colour coding with timber crayon was first introduced, devised, I am told, by George Button.

"A" poles were marked red, "B" poles blue and "C" poles green. This system was also known as the Local Volume Table for Thetford, two printed versions of which are shown below, one dated 1960 and the other which although not dated is obviously an earlier edition. Tables showing piece work rates current at the time are also included.

It is interesting to note that in November 1960 when basic pay was £8.12.6 (£8.62) the price for a "C" pole extracted to rack was at 10 d per pole (volume 2.5 H ft) equivalent to 50 pence per m3 wages cost only.

Fig 3

FORESTRY COMMISSION

EASTERN CONSERVANCY

LOCAL VOLUME TABLE

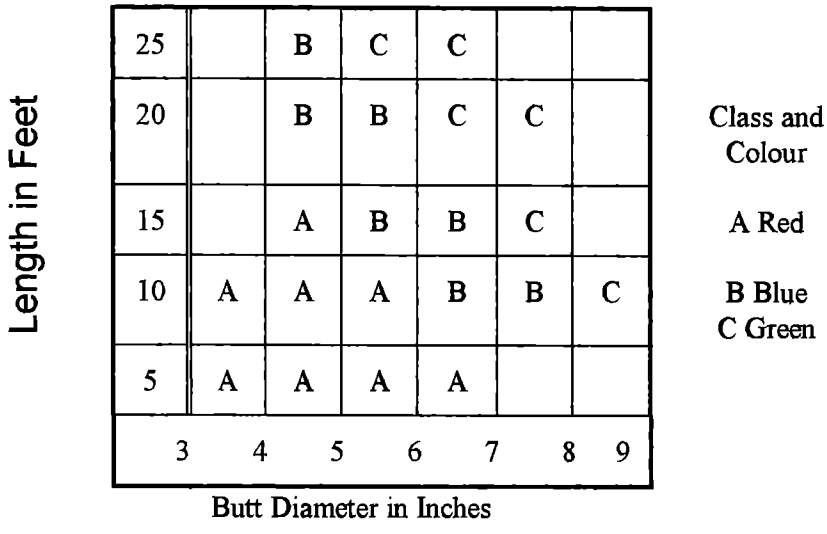


Fig 4

PIECE WORK RATES

Class	Tops	Smalls	A	B	C	Butts 6in Top Random Length
Colour	-	-	Red	Blue	Green	
Avg Volume OB or Measure	100 1in ft	100 1in ft	.6	1.33	2.0	Felled measure
Volume Range	-	-	.2 to 1.0	1.0 to 1.7	1.7 to 2.5	-
PW Rates Felling, Trim & Extraction to rack	10d per 100 1in ft	1/8 per 100 1in ft	5d	6½d	10d	3d at stump 3½d at rack per cube
Peeling	-	-	4½d	7d	8½d	3¼d per cube
Loading	2½d per 100 1in ft	2½d per 100 1in ft	10d per score	1/8 per score	1½d	¾d per cube to 1d per cube up to 8ft by 6in according to density

Fig 5

Revised November 1960

LOG VOLUME TABLE FOR THETFORD CHASE, THE KING'S AND SWAFFHAM FORESTS

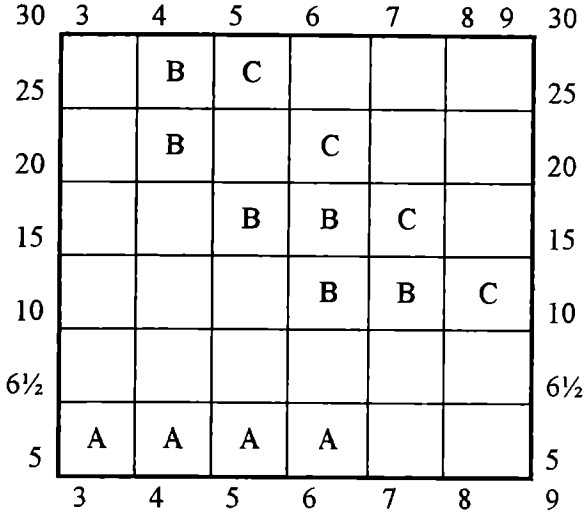


Fig 6

PIECE WORK RATES FOR THINNING & FELLING Per ton. Loads over 6½ ton paid at 6½ tons

Class		Av. Vol.	Fell, trim & stack at rackside		Peeling	Loading and Local Delivery Hiab per ton						Stump Treatment	Butt Creosote
						Inner Circle		Middle Circle		Outer Circle			
			1st & 2nd th	3rd & sub.th		Dr.	Load.	Dr.	Load.	Dr.	Load.		
Tops and Small Poles	5'/6½'	0.2 each	1½d each	¾d each	Nil	2/6d	2/4d	3/-d	1/7d	3/6d	1/7d	-	-
	10'	3.0 per 100 lft	1/11 per 100 lft	1/2½	Nil	2/6	2/4	3/-	1/7	3/6	1/7	-	-
A		0.4 each	3d each	3d each	Nil	2/6	2/4	3/-	1/7	3/6	1/7	See amendment sheet	-
B		1.5 each	8d each	8d each	7d each	2/1	1/11	2/6	1/2	2/11	1/2		-
C		2.5 each	10½ ea 8½ ea at	10½ ea 8½ ea stump	9d each	2/1	1/11	2/6	1/2	2/11	1/2		-
6½ butts		1.3 each	5d each	5d each	4d each	2/6	2/4	3/-	1/7	3/6	1/7		-
6" TD. Timber Even ft		Fell Measure	3¼ at stump	3¾d rack	3½d H.ft.	2d-2½d per H.ft. O.B. (Driver/Loader to share rate)							¼d per end

In 1989 Forest Craftsmans basic pay is £108.62 increase 1260% and wages cost for subsequent thinnings tree size >0.16m3 is £2.93 for fell, sned and extract, an increase of only 586% Forest Cost including all resource costs and Oncost is £9.37 increase 1874%. This includes mark and tariff, fell, sned, extract, mark and measure.

The specification for Long Tops and Small Poles remained the same. Gangers continued to mark poles to be peeled once they had been carried out to rack.

Peeled A, B and C poles were hauled in and stacked separately in the Depot as were Long Tops and Small Poles which remained unpeeled. Bent A, B and C poles left unpeeled were hauled in and stacked together.

Butt lengths cut off at 6 in TDUB either >9 ft in length or 6.5 ft lengths would also be peeled, hauled in and stacked separately although as tree size increased the 9 ft lengths were more likely to remain unpeeled and sold as sawlogs at rideside.

Sometime after 1960 a larger category than "C" was introduced. I can find no specification or any other reference to this but I am assured that it was colour coded brown and that they were sometimes cut in half after booking in order to carry them out.

6.1.3 1965 - November 1987

In 1963 the first Cambio peeler was introduced into the Depot with the intention of fully mechanising all peeling of pitwood poles at Thetford.

The peeler had a maximum aperture of 35 cm which was more than adequate to peel all the B and C poles produced at that time.

During the same period chainsaw felling, tractor extraction and Hiab grapple loading were all being introduced. In addition, payment by average tree size determined by tariff was introduced around 1965. Again, the precise timing is uncertain by I estimate that it must have been around 1965 when all these developments lead to the final major change in pole categories supplied to the Depot. Lorries with increased capacities offset, to some extent, the disadvantage of hauling heavier unpeeled poles.

The revised categories were:-

a. Cambio Poles - Species SP, CP and Larch. DF suitable but if dry did not peel well - reasonably straight, 13 to 25 ft long, 3m minimum TDUB, 9 inch maximum butt diameter. Maximum size not to exceed 2 h ft.

   It was essential that poles were well trimmed as the Cambio machine removed bark only.

   Colour Code - red cross. Cambio poles were converted into small and medium diameter pitprops, stakes, posts and rails.

b. Pitwood Poles - Species as for Cambio poles - had to contain at least 70% of straight material suitable for conversion into unpeeled and peeled pitwood. Well trimmed and square cut both ends. Length 13 to 25 ft, 3 inch minimum TDUB 9 inch maximum butt. Maximum size not to exceed 2 h ft.

Colour code - straight line red. Pitwood poles were occasionally supplied in the length unpeeled to collieries in South Wales. Otherwise they were converted unpeeled into the same products as Cambio poles. Where required products would be peeled after conversion using either a Kingslaw or Cundey peeler which followed the Kingslaw.

c. Random Butts - Species SP/CP only.

Specification - reasonably straight (because they could be converted to 20" Woodwool billets, absolute straightness was not essential). Well trimmed, no large knots.

Length - random or in 6 ft multiples. Minimum 10 ft, maximum 26 ft.

Top Diameter - Absolute minimum 5" UB.

Maximum Butt Diameter - 9" UB.

Colour Code - Red cross.

Random butts were converted into larger diameter pitprops and 20" and 6 ft Woodwool billets. They were peeled either on the Cambio or by Cundey peeler once converted unpeeled into 6 ft Woodwool billets.

Again log tops and small poles remained the same. This pattern of supply remained very much the same right up to closure with the following exceptions:

Around 1968 unpeeled pitwood supply to South Wales was stopped and as a result the pitwood pole category was dropped. Certainly it did not exist in March 1970. In February 1972 metrication brought the final changes which only affected dimensions, leaving the specifications in all other respects unchanged.

Cambio - 4 to 8m long, 7cm minimum TDUB. Maximum butt 18cm. Maximum size not to exceed 0.072m3.

Random Butts - 4 to 8m long or in 2m multiples.

Top Diameter - absolute minimum 12cm UB.

Maximum Butt Diameter - 23cm UB.

At this time a new category of Short Pitwood was introduced:

Species - all softwoods.

Specification - reasonably straight, well trimmed, square cut both ends.Length - 2m with 4cm tolerance.

TDUB - 8cm minimum. 13cm maximum.

Colour Code - Red cross.

These lengths were peeled by Cundey or Coles peeler and converted into short pitprops, length 0.61m to 1.52m in 7cm steps for which there was considerable demand.

By 1972 there was very little first thinning to be done and the clear fell programme had already started. These 2 factors coupled with increasing mean tree size in thinning generally meant there was a premium on small diameter material suitable for pitwood. It was possible, particularly in CP to cream short pitwood from bent poles converted by chainsaw.

6.2 Quality

The quality required was always set by the specification laid down for the 2 principle products, peeled pitprops and Woodwool billets. In both cases these were:-

a. trimmed flush to the stem - no proud knots;

b. no large knots;

c. square cut both ends;

d. no excessive taper (pitwood 1 in 84);

e. well peeled;

f. adequately seasoned.

In all but c. and d. the Depot was entirely dependent on the forest to supply poles which met the required standard. For instance, at no time did the Depot process provide for reducing proud knots and throughout its history poor snedding created problems. As a very last resort men were brought in to resned poles where the source could be identified and on more than one occasion props had to be retrimmed with billhooks.

Inevitably if stocks in the Depot were low and pressure to improve the situation high the Manager found himself obliged to accept a lower standard.

By the mid eighties smaller diameters were increasingly difficult to find and as a result the general quality of poles supplied dropped.

Prior to closure virtually all trials with processors and harvesters ended with the conclusion that snedding quality was not up to the standard required for BCD material.

The reason for this insistence on a high quality of snedding was that without it serious injury could result to those handling the poles or products both in the Depot and equally important in the pits. A knot trimmed at an angle could be like a knife edge causing quite serious injury.

6.3 Species

For pitwood and fencing any of the available conifer species, Scots Pine, Corsican Pine, Larch and Douglas Fir were all equally suitable and acceptable although dry Douglas Fir poles were difficult to peel. Cambio poles, pitwood poles, long tops and small poles were acceptable in any of these species for many years because they were not big enough to produce Woodwool. Once they became sufficiently large it was essential to keep the species separate because only pine of the species available was acceptable for the manufacture of Woodwool. It was for this reason that random or long butts, as they became known, were limited to pine only.

When Cambio poles became desperately short in 1986 Western Red Cedar poles were accepted but it proved impossible to peel them on ring debarkers such as the Cambios and VK 10. Small quantities of other species planted in the fifties and early sixties, mainly in North Norfolk including Grand Fir and Western Hemlock were utilised but again ensuring none went into Woodwool. No distinction was ever made between Scots and Corsican Pine.

6.4 Measurement and Control

From 1946 to 1965 volume produced was calculated using number of pieces by pole category and an agreed conversion factor, the only exception being long tops which for many years were recorded in units of 100 lineal feet. This was arrived at by sampling batches of 20 poles to arrive at a mean length.

The introduction of the Thetford Local Volume Table with A, B and C poles did nothing to change this except that there were only 3 standard conversion factors. During the same period piecework payment was also by the piece for fell, sned and extract. Loading was paid by the score of pieces initially and later by the ton.

Prior to 1960 thinning control was exercised on the basis of volume removed i.e. volume produced calculated as above, with no attention to standing volume before or after thinning.

The Working Plan Assessment and enumeration of Thetford Chase Forests in 1960 resulted in the Thetford Basal Area Curves and from them until about 1965, when tariff measurement was introduced, thinning control by Basal Area was standard practice.

From 1946 to 1959 input into the Depot was controlled by the piece, each lorry driver keeping a tally of the number of poles in each category by the load. Random periodic checks were made in the Depot as the lorries were unloaded.

In 1959 the Avery weighbridge was installed and from then until closure input was controlled on the basis of weight generally using 1m3 to the tonne or the imperial equivalent as the conversion factor. This allowed some cross check between forest and Depot while production continued to be based on the piece.

From 1965, when payment by the tree was introduced, BCD poles continued to be counted in order that volume produced could be calculated. This continued until the mid eighties when there were only 4 beats with very much reduced staff. It then became common practice for drivers to identify loads to compartments on the Weight Ticket in order that the weight could be used to calculate volume produced alleviating the necessity to count BCD poles.

6.5 Quantities

Figures for input during the first 25 years are virtually non existent but the article in the FC Journal No 25 in 1956 by Backhouse and Nimmo (1) records that the Depot handled 200,000 h ft of forest products at that time which is equivalent to 7,200m3. It is not clear whether this figure relates to input or volume sold out of the gate but assuming the latter and a loss on conversion of say 20%, the input volume would be 9,000m3. This compares with a national total volume sold of 433.700m3 in all products or 114,300m3 pitwood only in the same year.

The figure of 200,000 h ft appears debatable because it cannot be substantiated by many other known facts.

Much of the forest would have been in production by then and 14 lorries of 4 to 5 ton capacity were fully engaged in hauling all the material produced into the Depot at the rate of 4 to 5 loads per day. Later it is stated that throughput at that time amounted to 180 tonnes per day.

On the basis of 48 weeks this equates to 43,200m3 annually which I think more likely, particularly as the caption to plate 4 FC Annual Report No 40 for 1958/59 (12) suggests 50,000 tonnes as the input for that year and it should be remembered that perhaps half that quantity had already been peeled in the forest.

Conversion of bent poles for Weyroc probably started when the factory opened in 1964. The arrival of chainsaws generally in 1965 which enabled conversion of bent poles into PIM Boardmill, Bowater and Weyroc to be done at rideside, and would have reduced the volume coming into the Depot.

Nevertheless Ian Campbell suggests that in 1966 the level of input was 750 tonnes per week, say 36,000 tonnes per year. This would have been almost entirely unpeeled material as the Cambio peeler was working double shift by this time.

Ian Campbell also quoted the U6 volume of Pitwood and Woodwool only for 1968/69 as being 39,100m3 which implies an increase in input by that time possibly resulting from a temporary closure of the Weyroc factory which ended in November 1968.

From 1965 when increasing volumes of sawlogs and small roundwood were being sold at rideside direct from the forest, the Depot became one of a number of customers whereas before it was virtually the only outlet available to the forest.

Inevitably commitment to outside customers tended to take priority over commitment to the Depot particularly as there was almost a tradition in the District of being oversold or at the very least leaving nothing in hand for contingencies.

Input to the Depot was always allocated as part of the District Sales Plan and this was broadly related to the Depot Sales Plan by end products. I say broadly because total volume was in itself of little significance but the mix crucial.

In the last 10 years the ideal mix would have been 30% Cambio, 65% Long Butts, 5% Long Tops and Smallwood Poles with Long Butts as specified. In practice as tree size increased and clear fell provided an increasing proportion of the total volume produced, Cambio poles became more difficult to find and Long Butt diameters crept up, thus including increasing proportions suitable only for woodwool being too large in diameter for pitwood.

By 1974 42000 m3, only 31% of the converted volume produced at Thetford was supplied to the Depot. The remaining 69% was sold at rideside as sawlogs and pulp/chip. Inevitably peaks and troughs in demand from outside customers occurred and the Depot provided a buffer between the Production operations and the market.

A great many men and machines were engaged in harvesting 4000 m3 weekly throughout the year and generally it was better to aim for even production throughout the year.

At times of increased demand it was possible to meet this by channelling BCD material into other products particularly Cat II and III sawlogs and pulp/chip which together covered the same diameter range required by the depot.

Conversely if the market for sawlogs and/or pulp was depressed even for relatively short periods, pressure for space, forest hygiene and many other considerations would encourage foresters to increase input to the Depot and this included attempts to lower the specification. One such occasion was in 1980 when the timber market generally went through a difficult time. Input into the Depot was the highest ever at 56273 m3 69% Long Butts, 30% Cambio and 1% Smallwood. The redevelopment had started and it was known that the peelers would be out of commission for a matter of weeks while the old peeler was reconditioned and the 2 installed in the new plant. Good stocks of peeled poles were essential if commitments were to be met.

On this occasion therefore it suited both parties and no significant curtailment of harvesting was necessary.

The second occasion was in 1984/85 the year-long miners strike. Many of our sawlog customers produced sawn mining timber but in addition the loss of this outlet generally resulted in difficulties throughout the market with reduced uptake from the forest as a consequence.

Again every effort was made to take in the maximum volume even to the extent of double stacking poles but with reduced uptake of Depot products, space was at a premium and some minor restraints on harvesting were necessary. Such abnormal periods apart the objective was to maintain even input, production and dispatch throughout the year. Increasing competition with the sawlog and pulp markets ultimately resulted in input being demand driven.

Strict control on pole stocks was essential, the minimum acceptable levels being equivalent to 2 weeks peeling in unpeeled and 13 weeks conversion in peeled poles.

Fig 7

INPUT VOLUMES IN YEARS FOR WHICH RECORDS ARE AVAILABLE

YEAR	LONG BUTTS		CAMBIO		SMALLWOOD		TOTAL VOLUME M3
	VOL M3	%	VOL M3	%	VOL M3	%	
1956	)						43,200 Estimated
1959	)						50,000 "
66/67	)						36,000 "
68/69	)		FIGURES	NOT	AVAILABLE		47,000 "
72/73	)						31,241 Actual
73/74	)						42,247 "
74/75	)						46,608 "
78/79	)						45,314 "
79/80	)						45,005 "
80/81	3,8769	69	16,803	30	701	1	56,273 "
81/82	2,9230	70	11,435	28	818	2	41,484 "
82/83	3,0390	72	10,836	26	878	2	42,094 "
83/84	3,6615	75	10,948	22	1,516	3	49,079 "
84/85	3,0403	74	8,543	21	2,137	5	41,083 "
85/86	3,2975	77	8,786	20	1,294	3	43,055 "
86/87	2,6454	68	10,916	28	1,598	4	38,968 "
87/88	1,4880	73	4,654	23	964	4	20,498 "

It is interesting to consider that on the basis of these figures a conservative estimate of the average yearly input might be 42,000 m3 which suggests that the total volume handled through the Depot in its 42 year's existence might have been 1,764,000 m3.

6.6. Mix and Size

The major factor in meeting contractual commitments was the relationship between the diameters represented in the poles supplied and those represented in the orders placed.

Pitwood top diameters ranged from 80mm to 200mm with just a few orders up to 250mm but increasingly the main requirement centred around 130mm to 150mm and by 1986-87 50% by volume was required in these 3 diameters and 90% in the range 130-200mm. The very simple fact that any single precise diameter if present at all in a pole, only occurred at one single point was all too well appreciated by those working in the Depot but seldom appreciated sufficiently by others.

The Long Butt specification was for a 23cm max butt diameter which on a 6m pole implies a 17cm top. Increasing proportions of the Long Butt supply were in sizes greater than this even up to 35 and 40cm butt all of which could only be converted to woodwool.

The situation was worst when input increased due to difficult market situations but throughout the eighties up to closure, increasing difficulties arose in trying to reconcile material supplied to orders mainly because the harvesting programme was comprised of increasing proportion from clearfell with commensurate increase in tree size and reduction in poles suitable for pitwood production.

This situation was exacerbated by the disposals policy initiated in 1981 which resulted in the sale of many young stands in the Wensum and Lynn blocks which would have provided very significant volumes of high quality Cambio poles and Long Butts of a size ideal for pitwood production over many years.

The input table on page 80 clearly demonstrates the reducing Cambio and increasing Long Butt proportions which, together with increasing Long Butt diameter, constituted a major problem.

6.7. Cost

From quite early on the question of how the Depot operation should be accounted for exercised many minds.

Jim Davidson, District Officer, with special responsibilities in the Depot 1949 to 1955 who later retired as Director Harvesting and Marketing, in a letter recalling his time at the Depot writes:-

"One major task followed a visit by Lord Robinson about 1951. He called for the produce accounts of each of the Thetford beats and that of BCD. To his horror he found that although BCD made handsome profit all the beats ran at a loss. The transfer charge for timber delivered to the Depot was clearly something to be questioned, but he did not stop there.

We had to carry out a very full costing of all alternative methods of doing each stage of preparing props from felling to despatch. For example, peeling could be done at stump, rack or depot, seasoning could be at stump with poles stuck up adjoining trees, in piles at rackside, as poles in the Depot or as props. Each variant affected other stages, and the object was to find the best sequence of choices over all.

Forester Bruce, then in what was known as Cost Research Branch at HQ was employed for about 18 months on this with his two assistants. The results were interesting but did not suggest any substantial change from established practice. The time was coming for more radical changes by mechanisation, but this had to wait a little longer till component elements of a mechanical production line would be more fully developed. (13)

Even though the question was asked in 1951 it was many years before it was finally resolved.

Two suggestions along the way were to charge the material supplied at the cost of harvesting and haulage or to allocate a price per m3 which would allow the Depot to break even.

The final proposal which really became firm practice at the outset of the redevelopment in 1980/81 was to calculate analogue prices on the basis of what the forest could sell the same material for at rideside plus the cost of haulage to the Depot. Proportions of sawlogs by categories and pulp in the Long Butt element were agreed sometimes as a result of sampling. Cambio and smallwood were taken as potential pulp only.

Sawlog prices were taken as the average from the previous two Auctions and pulp from the most recent tenders all prices being converted to price per m3 over bark.

Early photographs indicate clearly that space was at a premium right from the outset and it may well have been the primary consideration when the decision was taken to transfer peeling to the forest.

Unpeeled poles once peeled in the length from a stack 6 feet high could never be restacked to 6 feet manually even if in their slippery fresh peeled state they would stay that high.

As drifts were cleared by conversion and the removal of stacked products so they were replaced by fresh supplies. Certain areas were allocated to each category of pole, thus the area just east of the office was devoted entirely to Celotex poles in about 1947 with the drifts running north-south right across to the railway boundary as indicated in a very early photograph.

Pitwood poles were also stacked north-south beyond the Celotex Section extending eastwards and northwards across the centre road as volume handled increased. While manual conversion and peeling in the forest continued so did this pattern of stacking.

The arrival of Hiab grapple cranes fitted to lorries and the mobile Cambio peeler brought about the first change. Unpeeled poles were stacked separately by categories in very long drifts generally running east-west. A tractor mounted Hiab grapple was used to feed and restack the peeled poles. It is likely that the stack height would have remained at no more than 5 feet as manual conversion continued for another 3 years and in any case fresh peeled poles tend to find their own level at about this height or less.

More space was required for the peeling operation necessitating some further extension of the site to the east.

The arrival of Volvo front end loaders which was almost certainly instigated by Work Study from 1969 on really revolutionised the whole approach to Depot working because it was then possible to build pole stacks to the maximum height possible with lorry mounted Hiab cranes, and the stacks could be laid down butt to tip: Volvo loaders were eventually used to feed the old mobile peeler in a static position; removing and restacking the peeled poles initially for liner bench or chainsaw conversion and later for subsequent rehandling to feed the pendulum saw line.

Peeled poles were always stacked on poles used as bearers to keep air circulating under the stacks but at times ground conditions were so bad that lower parts of the stacks were permanently in water during the winter and unpeeled stacks placed direct onto the ground awaiting peeling were very often lying in water too. Peeled poles were retained to season for at least 13 weeks involving considerable stock holding requiring a lot of space.

No set pattern of storage and movement existed until the redevelopment when provision was made for all unpeeled poles to be stored on a well drained metalled surface surrounding the new peeler complex at the eastern end of the yard furthest from the weighbridge and office.

Peeled poles were stacked midway down the yard between the peeler and the new sawmill. Although hardstanding for the peeled poles was not essential because Volvos not lorries were used to move them from the peeler to the stack yard, conditions deteriorated quite rapidly in wet weather but funds were not available to improve matters to any extent. During the Miners' Strike the bark dump area had to be used as an overflow area for peeled poles.

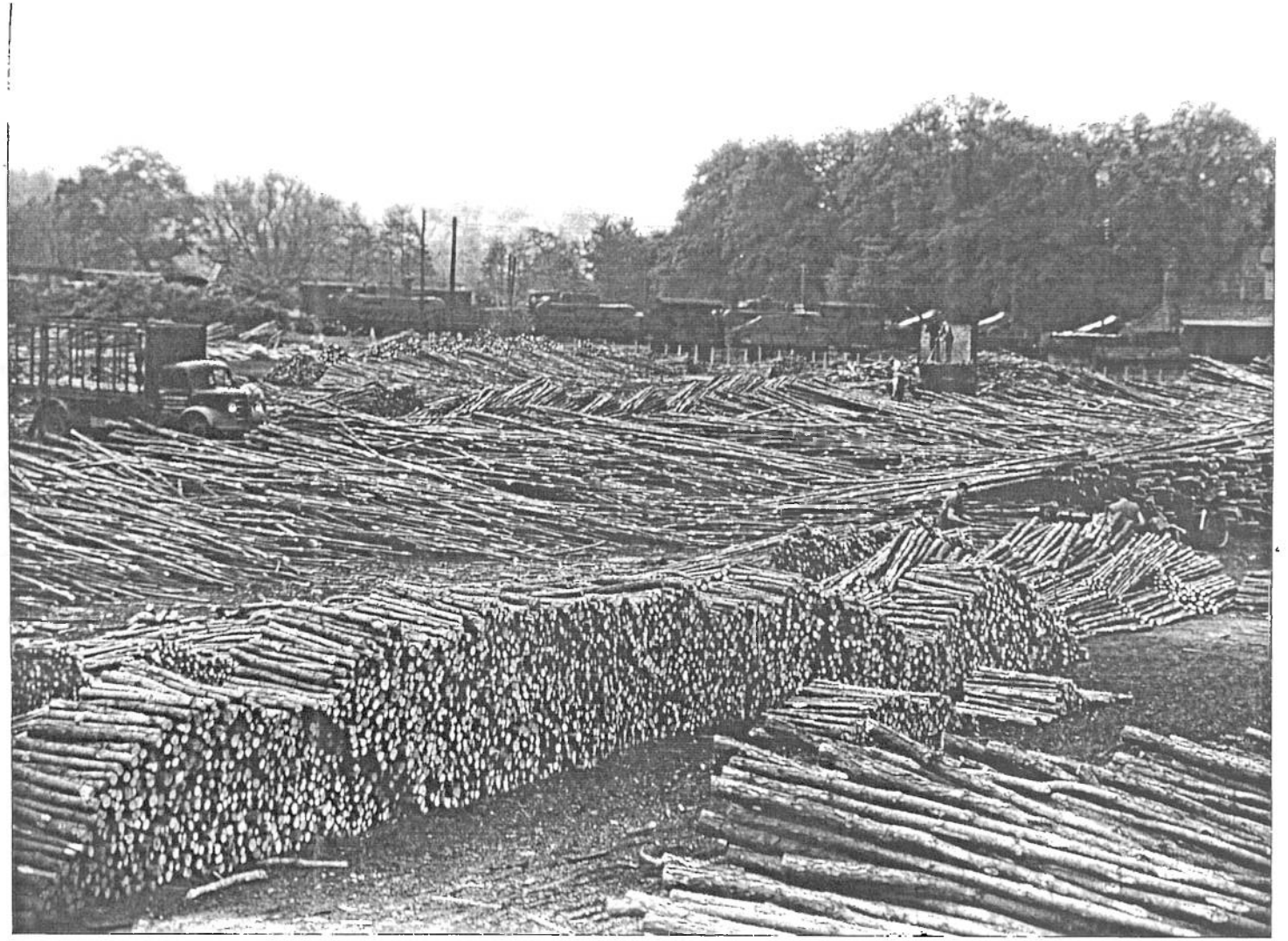


Plate 13. Probably about 1951/2. Until the mid 1960's everything felled went into the Depot for conversion, sorting and dispatch. Basket sided lorries were used by contractors for Celotex delivery.

Plate 14. Another early view of the office and housing area well before either were built. Taken from the top of the mobile crane!

Peeled pine poles were used as bearers for peeled poles for many years but from 1980 unpeeled Douglas fir or larch were used because they lasted longer and markets were not readily available for species other than pine, the available quantities being relatively small but adequate for that purpose.

Stocks of peeled and unpeeled poles together would range from 15,000m3 to 20,000m3 in normal times during the later years. Smallwood stocks would be minimal at around 100m3 and these would be stacked close to the fencing line established after 1970.

7. PRODUCTS AND MARKETS

Throughout its existence the principal market for the Depot was always pitwood for the coal industry with woodwool, pulpwood, chipwood, bungwood, posts, stakes, rails and firewood as products ancillary to the pitwood production.

In the very early days when every pole felled was taken to the Depot for conversion the Celotex market must have been crucial for the large volumes of poorer quality small diameter material coming in but pitprops would be produced wherever possible. As markets developed for small roundwood and the chainsaw made possible rideside conversion, so the quality of the poles supplied to the Depot improved, excluding most of the material suited to these lower priced markets.

This was the only major change but also of considerable importance was the later development of markets for bark and sawdust, particularly bark which in the latter years generated income in excess of £100,000 annually.

Attempts were continually made to develop other markets particularly for larger diameters as pole size increased but the commitment to the National Coal Board always had to be the priority and continuing uncertainty regarding quantity and mix made it impossible to offer any degree of continuity in supply to other customers.

Very good prices could be obtained for special poles for playground furniture, assault courses and similar applications but quantities were small and preparation labour intensive. One other possibility considered was that of rounding, a process which produces very clean cylindrical posts, poles, stakes and rails, saleable at a good premium, but the decision not to proceed was taken.

Fig 10

TOTAL SALES VOLUME EX BRANDON DEPOT 1972 TO 1989

	A	B	C	D
Year	Vol m^3	Mean Value £ per m^3	Gross Vol Harvested at Thetford	Col A Expressed as percent of Col C
1972-73	33601	*	140,000	24.0
1973-74	35307	*	155,000	22.7
1974-75	32751	*	153,000	21.4
1975-76	*	*	175,000	
1976-77	37751	*	190,000	19.9
1977-78	*	*	192,000	
1978-79	44954	*	168,000	26.8
1979-80	52791	*	*	*
1980-81	49896	*	193,000	25.9
1981-82	55636	*	184,000	30.2
1982-83	54898	29.19	206,000	26.6
1983-84	51899	30.38	218,000	23.8
1984-85	41778	29.37	183,000	22.8
1985-86	47309	37.90	196,000	24.1
1986-87	45124	39.56	196,000	23.0
1987-88	36980	38.42	185,000	20.0
1988-89	7866	21.75		

Notes:

1. * No figure available.
2. Volumes in Col A include all product volumes as sold ie bark and sawdust are included.
3. Volume harvested as recorded in FC Annual Reports.
4. Col D only included to give some indication of the proportion of the volume harvested that was processed at the Depot.
5. All Thetford harvesting resources engaged in clearing windblow in Suffolk 1988 - 89 (October 1987 Gale).

No significant additional markets were ever found for peeled and seasoned roundwood at prices which compared with those obtained for pitprops.

7.1 Pitwood, Consumption and the Coal Industry

Large volumes of round mining timber had always been used in the coal industry but up to 1934 all of it was imported. Unpeeled pitprops cut to required lengths were imported from France and Portugal for use mainly in the south west. Peeled and seasoned pitwood was imported in 6 to 12 foot lengths from Northern Europe for use in the Midlands, the north east and Wales. These lengths were converted to required lengths by the miners in Wharfinger yards at the ports. In Scotland unpeeled long lengths were cut to required exact sizes at the collieries.

In 1936/37 experiments were carried out which established that a properly prepared home grown pitprop was just as serviceable as the imported. From that time home grown conifer pitprops were supplied albeit in relatively small quantities from acquired plantations as the earliest FC plantings were not yet into thinning. (14) (15)

The second world war started in September 1939 and the resulting losses of British shipping together with damage to port installations and loss of timber stocks including pitprops due to intense air attack, meant that home grown produce had replaced imported for a large number of purposes by 1942.

In a letter addressed to the Deputy President of the Royal English Forestry Society on 7 August 1942, the Director of the Home Timber Production Department, G Lenanton (afterwards Sir Gerald Lenanton) stressed the urgent need for more timber and pitwood.

"The shipping situation makes it absolutely essential that our home production of timber should be speeded up still further. During the last 6 months British Woodlands have been felled at the rate of approximately 1800 acres a week, in itself a startling figure, but in future some 2,200 acres a week must be felled if we are to produce that volume of timber which is required for the effective prosecution of the war. While all kinds of utilisable timber are in demand, the most urgent need is for pitwood of which supplies are limited. I know that pitwood production entails the sacrifice of young plantations which have not yet attained financial maturity, but the maintenance of supplies for the pits is of vital importance and I must appeal to owners to part readily with their pitwood stands when asked to do so." (16)

For the next decade up to 1955 pitwood continued to figure very prominently as the major requirement and production from Breckland was continuous throughout the war years particularly 1942 to 1945 mainly from land in private ownership. Thinning in FC plantations really only started in 1945 and in 1946 the Forestry Commission started operations at Brandon Depot. In 1947 the Coal Industry was nationalised becoming the National Coal Board (NCB).

The graph shown as Appendix 7a records output, consumption, number of collieries and the number of men employed 1947-1988 (17) related to the volume of round mining timber supplied by the FC nationally over the same period (18) and that supplied by BCD 1973 to 1988.

In 1923, 1,250,000 men produced 300 million tons of coal. In 1947 when the NCB was set up 700,000 men produced 200 million tons. By the early 1980s having invested billions in new technology, the industry had a workforce of 200,000 and demand for little more than 100 million tons a year. (19)

In 1978 NCB total consumption of mining timber both sawn and round pitwood was 634000m3 of which 419000m3 was sawn and the balance 215000m3 was round pitwood. In the same year FC supplied 61100m3 (28.4%) and BCD 27900m3 (13%). It is of interest to note that at 634000m3 NCB use of timber even in 1978 represented 36.4% of the total volume harvested by the FC in that year including standing sales, purely a theoretical point as part of the 634000m3 would have been supplied by the private sector.

The graph clearly indicates the progressive decline in the scale of the industry which reflects many changes and developments in other areas.

Oil and gas fired central heating, natural gas, North sea oil and nuclear power all contributed to the reduced demand for coal but they also resulted in pressures to reduce costs.

New technology together with reduced demand tended to concentrate operations in large super pits. Older smaller pits were closing, others were amalgamated and it was in these smaller pits where pitprops were predominately used. This programme of modernisation and rationalisation finally resulted in a major confrontation with the National Union of Mineworkers led by Arthur Scargill.

It started with an overtime ban in October 1983 which developed into an all out strike starting in March 1984 lasting almost exactly one year, although work continued spasmodically throughout. The miners achieved nothing from the long strike and as the graph indicates, closures and redundancies continued at an increasing rate. By March 1989 collieries were down to 75, men were down to 85,000 and consumption of pitwood during the year 1988-89 was down to 35000m3. Predictions by NCB in the late seventies suggested their requirement from BCD alone would be in the region of 30000m3 implying a total consumption of 90000m3 at least as the FC normally supplied around 30% nationally. Generally FC supply followed consumption closely up to the mid seventies; the only exception being the period 1955 to 1961 when the proportion of volume sold standing increased rapidly to around 50% while NCB were reducing consumption and reducing stocks.

As consumption reduced more consideration was given to import substitution. In 1978 only 65% of all props and splits were home grown but by 1982/83 none were imported. Scottish collieries were using only home grown by 1976 and Wales 75% where in England there had been a rise from 36% in 1975 to only 56% in 1977 due mainly to the English collieries preference for peeled and seasoned props. Quality, seasoning and delivery performance were the main factors considered in comparing home grown with imported. (20)

Increasing attention to specification and quality control finally resulted in the introduction by British Coal (NCB were renamed British Coal in 1986) of a British Standards Institute Quality Assurance Scheme BS 5750 in 1986. The required standards could realistically only be met by Depot working. Production in the forest at rideside ceased and the number of suppliers were reduced to probably under ten. There were then only three main suppliers, the Forestry Commission, (BCD and Wentwood) J Walker and Sons at Worksop and Adam Wilson in Scotland.

The continuing decline in consumption had reduced the FC share to a level below that required for viability at the Depot and as a result supply of pitwood from BCD to British Coal ceased on 26 February 1988.

Fig 11

PITWOOD SALES EX BRANDON DEPOT 1972 TO 1988

Year	Vol m^3	Mean Price £/m^3	Percentage of Total Vol Sold
1972-73	22056	*	65.6
1973-74	21439	*	60.7
1974-75	24349	*	74.3
1975-76	*	*	
1976-77	27320	*	72.4
1977-78	*	*	
1978-79	27915	*	62.1
1979-80	28122	*	53.3
1980-81	29735	*	59.6
1981-82	29091	*	52.3
1982-83	24250	45.70	44.2
1983-84	23486	46.98	45.3
1984-85	14255	47.15	34.1
1985-86	24668	52.20	52.1
1986-87	21330	56.55	47.3
1987-88	13413	60.64	36.3

* Figure not available.

7.1.1. Specifications

a. Pitwood - defined in Thetford as pitwood poles.

Species - Corsican and Scots Pine, Douglas Fir and Larch.

Specification - Must contain at least 70% of straight material suitable for conversion into unpeeled and peeled pitwood. Well trimmed and square cut both ends. No excessive taper.

Length - Minimum 13' (4 metres)
Maximum 25' (7.6 metres)

Top Diameter - 3" (7cm) minimum Under Bark.

Butt Diameter - 9" (23cm) maximum.

Maximum size not to exceed 2 hoppus feet (0.072m3).

This was the specification for poles supplied to BCD from the forest but at a meeting of the Home Timber Merchants Association England and Wales with NCB at Doncaster on 27 February 1968 it was stated that "NCB are now willing to discuss suppliers to St Hellons from the trade; the high standard of props supplied by FC (ex E(E)) has achieved the necessary break through at collieries hitherto resistant to home grown props". (21)

Ian Campbell, Depot Manager at the time, notes that St Hellons was a Wharfinger yard in South Wales which converted imported pitwood into required pitprop and split sizes for supply to collieries. He also notes that approximately 5000 tonnes of peeled pitwood poles were supplied which would have been by March 1970 at the latest when Ian was succeeded by Graham Hobbs.

I think it likely that no further pitwood lengths were supplied. Certainly from 1979 all material supplied to NCB was as prepared props and splits.

b. Pitprops

Species - Any coniferous species grown in Britain.

Specification - Reasonably straight, square cut ends, knots trimmed flush, sound and no knot whorls at point of top diameter measurement. Taper assumed 1:84. No excessive butt flare.

Length - From 2 ft to 7 ft in 6" steps for all coalfields except South Wales where 90% of all props used were in 6 lengths 4 , 6 , 7 , 9, 11 and 13ft.

From the national change to metric units on 15 February 1971 the range become broadly 525mm to 3000mm in steps of 150mm, tolerance ± 5mm.

Top Diameter - All coalfields except South Wales worked on the basis known as half foot to half inch eg:

2 ft long with 2 in top diameter
3 ft long with 3 in top diameter

In South Wales a top diameter range was acceptable against each length eg:

4 ft	long	with	3½	to	5in	top diameter
6 ft	"	"	4	to	6in	" "
7 ft	"	"	5	to	7in	" "
9ft	"	"	6	to	8in	" "
11ft	"	"	5	to	7in	" "
13ft	"	"	8	to	12in	" "

Metrication brought the range 80mm to 250mm in 10mm steps. The stated size was the minimum measurement for that class ie a 150mm prop could measure anything from 150mm to 159mm.

Metrication brought little change as metric sizes were simply the nearest metric equivalents to the old imperial sizes, but the change did create problems in achieving the greater accuracy in top diameters, 10mm being rather less than half an inch to judge by eye.

Peeling - Not more than 5% of total area in outer bark.

Dryness - Peeled pitprops to be stored to dry and the weight/volume ratio of a full load delivered to the NCB not to be less than 1.5m3/tonne. This definition of dryness included in NCB specification 695:1985 produced as a prelude to the BSI Quality Assurance Scheme was changed at FC suggestion from 25% moisture content, being more practical in its application. Even this degree of dryness, equivalent to 60% MC presented seasonal problems. A later revision of Spec 695:1985 specified 1.5m3/tonne for top diameters up to 130mm and 1.35m3/tonne for top diameters 130mm and above. (22)

Measurement - As trade in round timber has always been on the basis of solid or cubic content each prop size was allocated a volumetric conversion factor initially in Hoppus feet and later in cubic metres, based on the length and minimum top diameter for the class ie a 150mm prop could be 150mm to 159mm but its conversion factor was calculated on 150mm. Pitprops were traded on the basis of "per hundred lineal feet" of each size, later per hundred lineal metres.

From very early on the relationship between lineal measure, volume and weight for pitprops was of considerable interest and to assist in this Smith's Pitprop Tables were first published in the Scottish Forestry Journal in 1936 and later in 1939 published in booklet form by the National Home Grown Timber Industry Council. (23)

The taper assumed was 1 inch in diameter for every 7ft in length or 1:84 which continues to the present day.

A degree of caution was always essential in any consideration where conversion factor volume was used because the volume could be up to 25% more, particularly on the smaller diameters due to the use of minimum diameter for volume calculation. Both weight/volume and price/volume assessments were influenced by this underestimate of volume.

c. Splits - Were subject to exactly the same specifications as props except that they were always peeled and in addition they had to be sawn over the whole length through the centre of the pitprop. At any point the width and thickness had to be not less than the small end.

As far as I can establish splits were not supplied in anything but very small quantities until at least 1964. I believe there were a number of reasons for this situation. Initially, available diameters were small where split diameters started at 100mm, but they were predominantly in the middle and upper part of the range.

Prior to the arrival of the Witte saw in 1964 the only means of splitting was by pushing them through on a liner saw bench which was both arduous and slow and adequate supplies could be imported. There were doubts in some quarters as to whether splitting constituted a move towards reconversion or processing unacceptable in relation to the Forestry Commission terms of reference. Certainly some local sawmillers are said to have been apprehensive and opposed to this development.

However, in the late sixties, increasing tree size and positive moves towards import substitution increased potential and demand. During the final ten years at least 65% of the total volume supplied was as splits.

Changes in mining techniques, particularly the move to "retreat mining" where temporary roadways replaced permanent roadways, reduced demand. A temporary road was driven from the bottom of the shaft to the extent of the seam which was then mined backwards letting the roof down as mining progressed. This development affected the demand for splits quite dramatically as their use had been largely in lining permanent roadways.

7.1.2 BSI Quality Assurance Scheme BS 5750

As a prelude to the introduction of this scheme a new more detailed and tighter specification 695:1985 was circulated for comment early in 1985 and the final revised version was received in October 1985. This included some modifications resulting from observations and comments made particularly in relation to dryness as already mentioned.

In April 1985 a meeting with NCB was held at BCD to discuss amongst other items BS 5750. NCB were anxious that the Forestry Commission and specifically Brandon Depot should agree in principle to the scheme and apply for registration NCB undertook to amend the quality assurance schedule in line with the discussions and points raised.

In December 1985 a questionnaire was completed and sent to the British Standards Institute. Throughout 1986 various schedules were completed and revised and discussions took place between the British Standards Institute, NCB, and FC. Finally on 1 April 1987 the Depot received its Certificate of Registration.

Inspections by BSI inspectors following registration indicated some fairly minor problems which were quickly rectified but one major problem which had always been present, still remained unresolved. Assessment of top diameter had always been by eye during conversion operations; accuracy depending on the experience and skill of the operators backed up by sorting and checking at the end of the lines.

In practice once the diameter of the first cut had been assessed the remaining cuts on a pole were almost automatic based on assumed taper and the cutting pattern by length and top diameter specified for the day.

Various devices were introduced to improve accuracy but right up to closure the top diameter specification could not be met.

Representations were made to BSI pointing out that the product supplied was more than adequate for its purpose, particularly as error tended towards oversize, and that this was borne out by the lack of complaint and very low rejection rate over a great many years. This was assessed as being 1789 pieces rejected in 4,370,000 pieces supplied in the period March 1982 to February 1987, a rejection rate of 0.04%. There appeared to be some sympathy with this view on the part of the BSI inspector but the matter remained unresolved at closure.

7.1.3 Application and Use

Timber in the form of props has been used from the very earliest days of coal mining and its use continues albeit on a much reduced scale. This continued use is because wood is well suited by virtue of its favourable cost, strength and weight factors and its versatility. Props are used in supporting the roof while splits assist in this as a bridge between 2 props and particularly in lining permanent roadways. Currently they are, and for many years, they have been used on their own and in conjunction with powered supports (hydraulic props).

Factors influencing choice of material, method and size comprise a whole technology in its own right admirably covered in the TRADA publication Uses of Timber in Mining (24). Geology, seam thickness and mining technique are important factors but tradition and practice were of equal importance and considerable variation existed between different areas and collieries in the sizes required. This diversity of conditions and practice spread across a great many individual collieries resulted in very large numbers of different sizes. In my experience from 1979 the Depot supplied up to 200 different sizes to 160 different collieries.

Unpeeled material was the tradition in Kent and parts of South Wales but the main area of supply from the Depot was always the Midlands and North East where peeled and seasoned were used exclusively.

As the number of collieries were reduced by closure of the uneconomic pits which tended to be those with small seams where pitprops in sizes at the extremes of the range were used, particularly at the lower end so the demand for these sizes was reduced. This, in addition to the development of the big super pits such as those in the Selby field resulted in the concentration in demand around the 130, 140, 150 and 180 mm diameter classes. For at least 5 years prior to closure the volumes required and supplied in these 4 classes amounted to 65% of the total.

In spite of this the range of sizes remained high, 196 being supplied in 1982-83 and even in the final year 1987-88 122 sizes were supplied.

7.1.4 Supply

An article on pitprops written before the war in 1936 (14) creates the impression that the coal industry was very fragmented and although districts are mentioned, organisation of pricing, orders and supply seem to have been almost between supplier and individual collieries. As there would have been well over 1000 individual collieries at that time this must have created difficulties.

In 1936 the National Home Grown Timber Council had been set up and its first report was published. In 1937 this Council published the results of its investigation into the production of pitprops on a commercial basis. (25)

Early in 1939 with the prospect of war virtually certain, the FC set up the Home Grown Timber Advisory Committee to represent the Home Timber Trade, woodland owners, the Board of Trade and the Commission itself. Its role was to plan, organise and control home grown timber supply and one of its first duties was to fix maximum prices for standing timber, round timber in the log, sawn timber and mining timber including pitprops. (26)

From then on movement in national pitwood prices figured regularly in FC annual reports. In 1947 the coal industry was nationalised and the National Coal Board set up. The country was divided into administrative areas.

Discussion continued regarding supply levels and moves towards a price structure for Great Britain. Some success was achieved with the Scottish Division of NCB but having made little progress for Great Britain as a whole the Commissioners and NCB set up in November 1950 a joint pitwood working party which included representatives of private owners, the home timber trade and officers from the Forestry Commission and the National Coal Board. The working party reported in September 1951 and its main recommendations were: necessity for a high standard of preparation of the props: zoning of suppliers in accordance with a plan of movement drawn up by the NCB which provided for each coalfield to draw its suppliers from the nearest available sources: that agreement as to prices, specifications, quantities etc should be by negotiation between NCB and organisations representing the producing interests within specified territories, the said territories to comprise (1) Scotland (2) the counties in South West England and South Wales which would normally supply the South Western Division of the NCB and (3) the remainder of England and Wales: lastly that the principle of free-on-truck prices should be accepted.

The recommendations were generally agreed and following discussions with interested parties involved, a price agreement for England and Wales was negotiated to run from 19 December 1951 to 31 December 1952. (27) This series of events and resulting agreements provided the basis for all future organisation and negotiations regarding supply.

From 1946 when the Forestry Commission first operated a depot at Brandon until the very early fifties at the time of these agreements both unpeeled and peeled pitprops were supplied presumably to collieries all over England and Wales.

From 1951 supply was restricted to the Midlands and the North East where peeled and seasoned pitprops were used exclusively. Occasionally unpeeled continued to be supplied to South Wales right up to 1968 and into Kent well into eighties but the quantities were small and reducing and usually resulted from a special request to assist in overcoming a temporary shortage.

In November 1950 the Forestry Commissioners and the National Coal Board set up a joint working party in an attempt to find a satisfactory settlement on the basis of a single price agreement for Great Britain. The Working Party reported in September 1951.

In August 1952 the Pitwood Working Party was reconvened:- "To examine generally the experience gained in the preparation, distribution and marketing of home grown pitwood since the Working Party reported in September 1951 and to devise a basis for fixing periodically prices for round mining timber between the NCB and producers; and to make recommendations". (28)

Experience over the previous two years had demonstrated that many problems still persisted.

The Working Party report presented in August 1954 failed to provide an alternative acceptable to all the interests represented, to replace the negotiation arrangements for fixing prices currently in use at the time. The most important recommendation related to comprehensive testing of home-produced peeled and seasoned softwood props with particular reference to the relationship between rate of growth and quality as supports.

In the year ending September 1952 the FC Annual Report for that year states that Brandon Depot alone sold in excess of half a million cubic feet (18,270m3) of pitprops. This represented 18.5% of the total FC sales of pitwood in that year. Procedure for agreeing annual supply evolved over the years from the early fifties and by 1979 a standard pattern of events had become firmly established.

Terms and conditions of supply were covered by a standard rolling contract. Each year, usually in September/October, an annual contract would be negotiated for the Forestry Commission nationally on the basis of volume. This volume would then be allocated among the units producing pitwood.

Previous to this pitwood had been produced at rideside in small depots and many forests particularly in South Wales, North Yorkshire and Northumberland in addition to BCD. In 1981 a depot at Pexton in Dalby Forest was successfully mechanised and in the same year a study was made into the setting up of a pitwood depot at Wentwood in South Wales. This was agreed and from that time there were only the three Depots supplying pitwood from the Forestry Commission. Pexton ceased production during the Miners' Strike 1984-85 but Wentwood continued producing pitwood up to March 1988.

Once agreed the volume would be allocated to top diameter classes by props and splits, each unit negotiating with NCB through FC HQ to achieve a manageable breakdown.

In practice only minor deviations were achieved from NCB stated requirements but this was not a matter of great concern as by experience actual orders appeared to be placed with little reference to this schedule. NCB would then provide a further breakdown showing requirements in number of pieces by size in props and splits. This was of considerable interest as comparison by percentage volume of top diameter classes compared with historical achievement gave a good indication as to how practical their stated requirements were likely to be from the poles programmed to be supplied into the yard.

The NCB year ran from 1 March to the end of February, one month adrift from the FC year, a complication which persisted throughout. Colliery managers were required to place orders on a quarterly basis. These were batched up at Doncaster and allocated to supplying units hopefully a few weeks before the start of the quarter but occasionally a week or so after the start. Some negotiation was possible and by good liaison the orders for the quarter were manageable in relation to stocks, potential production and backlog orders.

An order would be for one size of split or prop and the number of pieces could be anything from 25 to 25,000 and virtually never in complete loads. Delivery instruction would be for a particular period within the quarter or for equal monthly quantities.

In addition to the main batches orders would continue to be placed almost daily and all orders once placed were subject to modification. They could be hastened to achieve delivery earlier than originally requested, suspended to delay delivery, or cancelled.

In any year individual pitwood orders normally exceeded 1,000. Add to this the number of collieries and the range of sizes and the complexities involved become very apparent.

In the year 1982-83 and in the final year 1987-88 the Depot supplied:

Fig 12

	1982-83	1987-88
Props	136 sizes	76 sizes
Splits	60 sizes	46 sizes
No Collieries supplied	140	80

In the final year the number and range in top diameters and length were:

Fig 13

	Top Diameter	Length
Props	17 from 60 to 230mm	17 from 600 to 2,700mm
Splits	11 from 100 to 200mm	14 from 600 to 3,000mm

Control exercised on a daily basis of production, despatch and stock was absolutely essential.

The basis was an index card raised for each individual order which travelled around the various offices allowing daily updating of numerous ledgers using production and despatch information to give stock balance and balance on order for any size of prop or split.

A running record of orders placed, modifications and despatches maintained daily facilitated weekly predictions as to the number of loads remaining on order and in turn allowed production and despatch to be set at an even level over extended periods. In this way supply was regularly around 98% of the volumes ordered.

7.1.5 Matching Supply to Demand

As already indicated the diameters represented in the poles supplied to the Depot were by no means always the same as those represented in the NCB orders.

As tree size increased and NCB demanded an increasingly high proportion of products in the 130 to 150mm diameter range the problem grew worse with growing backlogs in these sizes. The level of performance achieved was only possible through very close liaison with NCB Timber Supply Office at Coal House, Doncaster, refusing some orders, substituting orders and changing top diameters where acceptable to do so, which it very often was particularly where a new order was defined as urgent.

Harvesting methods and costs were largely influenced by the need to ensure adequate supplies of material suitable to fulfil commitments to NCB.

7.1.6 Loading and Delivery

For almost ten years all delivery was by rail but by 1955 increasing rail freight charges encouraged management to look towards delivery by road.

The Beeching Report on the railways published in March 1963 recommended large scale closure of railway lines and once implemented it left few collieries with the facility to accept delivery by rail even though those supplying power stations had the facility to deliver coal by rail. Road haulage became the normal practice using contract haulage. NCB required loads to be made up in lifts not exceeding 1.5 tons or 1.35 metres in diameter with bearers inserted between lifts to allow their wire rope slings to be inserted for off loading by crane, products to be parallel to the axis of the lorry.

Props less than one metre long could not be loaded safely in this way and these were regularly loaded across the bed in bays, a situation which brought regular complaint from some collieries and gave rise to volumes of correspondence. To overcome this Work Study conducted investigations into bundling small props over a period starting in 1982. (29)

In April 1985 at a meeting between NCB and FC held at BCD, NCB raised the question of delivery by lorries using self off loading grapple cranes.

Suppliers in the midlands were already using these vehicles as they took back return loads of poles to their home production sites.

Our contract was to provide loads for crane off loading and our haulage contractor was equipped for this. In addition our haulage distance was longer making payload loss due to crane more significant and return loads of poles were not possible.

Negotiations continued which finally resulted in trial loads leading up to an agreement that half all loads supplied would be self off loaded by 1 April 1987 and all loads by 1 October 1987. NCB refused to accept that extra cost was involved but a new haulage contract for the 3 years 1986 to 1989, where tenders for flat beds and self off loading were invited, resulted in a 10% premium on the self off loading.

During 1986 bundling reappeared on the scene but this time in the context of all products 1,200mm in length or more.

At the end of November 1986 FC HQ agreed that all supplies would be bundled to the standard as set by NCB.

As Manager I was informed of the decision on 23 December in a letter dated 15 December and instructed to start bundling as soon as possible. It was thought it might take a week or two to organise but in any case all deliveries were to be bundled by 1 March 1987. It took a little longer than two weeks to get organised and even longer to achieve full bundling, being a major operation requiring new equipment and more staff, but by closure in February 1988 all deliveries were bundled.

7.1.7 Price

Prices were very variable from all accounts prior to 1939 and it was not until the early fifties after nationalisation that anything like national prices were established.

Pitwood (poles) were always priced per ton(ne) while props and splits were priced per 100 lineal feet, later metres, although in later years price per piece was sometimes used and with the introduction of bundling the objective was to agree a price per bundle, as the number of pieces per bundle
for a given size was specified.

All these prices were based on a price per unit volume and they were the prices negotiated periodically. From the 1951 agreement the prices was "free on truck" and one price covered all sizes of prop.

During the year 1966-67 NCB indicated that from 1 October 1967 free market trading conditions would extend to all classes of home produced mining timber, i.e. pitprops, sawn softwoods and sawn hardwoods. (30)

It was out of this new situation that I believe the procedure of many years standing evolved. Records clearly indicate it in use by 1976.

The Forestry Commission and I imagine other major suppliers negotiated a price per cubic metre for peeled and unpeeled props and splits separately by three separate top diameter bands.

140mm and under
150 to 180mm
190 and over.

The prices were for "delivered" and revisions were negotiated on the basis of movement in production, loading and carriage costs together with movement in sawlog price and standing sale indices usually every six months.

In December 1982 NCB indicated that volumes for 1983-1984 would be the absolute minimum possible under the contract because they had come under severe pressure from the Monopolies and Mergers Commission to increase the proportion of their purchases brought competitively.

The Miners' Strike delayed the full implementation of new policies resulting from this situation but after the strike certain minimum quantities were negotiated and tenders invited for additional volumes. Required mix with 130, 140 and 150mm top diameters predominating together with high haulage costs compared with suppliers situated within the coalfields were important factors limiting success at tender.

The dramatic reduction in consumption after the strike together with reduced number of suppliers resulting from the introduction of BS 5750 really left little choice but to return to negotiated settlements which applied up to closure.

7.1.8 Import Substitution

Earlier reference has been made to the part played by BCD in weaning South Wales collieries off imported in 1968. (21) (Para 7.1.1).

In April 1979 in connection with their programme to introduce British pitwood to collieries using hitherto only imported Russian props, NCB asked the Forestry Commission to consider the possibility of drying certain of the larger sizes to lower moisture contents than currently achieved at Brandon Depot theirs being the driest and considered the best quality homegrown produced anywhere.

Handling the larger props was a problem in the pit and it was made much worse if props were unseasoned. Russian imports were of a high quality and very dry hence the need for comparable homegrown to persuade colliery managers to make the change.

The agreed volume/weight ratio was 1.8m3 per tonne equivalent to a moisture content of 35% of oven dry weight.

A total of 2,000m3 in 170, 180, 190 and 200mm top diameter props were to be prepared and stacked to achieve maximum seasoning with the intention of supplying them during the year 1 March 1981 to 28 February 1982.

Production started in the summer of 1979 and the required quantities were produced by the end of June 1980. Some problems had arisen in that levels of demand in some of the sizes for normal supply had severely affected volumes available to put down for extended drying. The props were close stacked to 3m high exposed to the prevailing wind completely in the open. Insufficient space was available to cross stack such a large volume for long term storage. Stacking and subsequent loading costs would also have been prohibitive.

Volume/weight ratios achieved ranged from 1.5 to 2.0m3 per tonne calculated using load weight over the weighbridge against conversion factor volume but 1.8 and above was only achieved exceptionally. There was continual resistance to use homegrown by collieries who still had not used any and uptake was slow but by the end of May 1982 the exercise was considered complete and during the year 1982/83 all imports of round mining timber ceased.

7.2 Woodwool

The woodwool industry had existed for a great many years and it was certainly identified as a potential market in 1936. (14).

The end product results from a process where 20 inch or 0.5m peeled and seasoned billets are clamped onto a machine and sharpened reciprocating combs cut longitudinal strips along the grain which are best described as wood straw. Spruce and pine are the only suitable species, other conifers having short fibres, cross or spiral grain which causes breakage and results in unacceptably short lengths.

Initially it was used for packaging, particularly in the potteries where when slightly moist it assumed the shape of the pots but remained resilient thus protecting the goods in transit. Another packaging application is for heavy engineering spares where extreme dryness is essential. Woodwool rope has been a very specialised application where it is still used to protect cast iron pipe particularly the ends, in transit. All these packaging applications have suffered competition over the years from other materials but no acceptable substitute has been found and all these applications still apply in 1989.

Shortly after the war in about 1952 the manufacture of woodwool/cement lightweight building slabs started in this country. It seems likely that manufacture abroad started before this date. It has been used largely for roof and partition wall panels in public buildings particularly schools. Blocks are also made and once the material had been certified as being fireproof probably in the early seventies its use was extended and considerable outlets developed in the coal industry for use in the mines which continue up to the present.

7.2.1 Specification

Although some companies specified minor variations and sometimes bought unpeeled billets and logs in the length from the forest, during the last 18 years at least the Depot supplied peeled and seasoned billets in two lengths the metric version of the specification which applied from 1971 being:

a. The acceptable timbers are Scots pine, Corsican pine.

b. The timber shall be peeled, free from visible rot or metal, and with any root buttresses trimmed flush with the stem. All timber shall have been seasoned, and the acceptable volume weight ratio shall be between 1.40 and 1.60 cubic metres per metric tonne.

The timber shall have square cut ends.

c. The timber shall comply with the following specification of dimensions:-

Diameter - not less than 12 centimetres nor more than 28 centimetres but any load may contain up to 5% of pieces of a diameter greater than 28 centimetres and not more than 35 centimetres.

Length - 2 metres with a tolerance ± 50mm
0.5 metres with a tolerance -15mm

d. Knot - the maximum acceptable knot size shall be 4 centimetres diameter where the diameter of the billet is 20 centimetres or less and 5 centimetres where the diameter of the billet exceeds 20 centimetres.

The seasoning was critical for most customers.

In packaging the potteries preferred some moisture, engineering spares demanded none. The woodwool slab manufacturing process lasted 24 hours. If the woodwool contained too much moisture the curing processing was delayed and a batch was missed. Sugar content was also critical, again because beyond a certain level the curing process was affected. It was said that billets produced from poles left unpeeled for extended periods usually had unacceptably high levels of sugar content.

7.2.2 Measurement

For many years production was paid for by the piece using volume as a basis. Presumably like diameter groups were stacked together and a conversion factor used per piece, another justification for the numerous ganger/checkers employed.

During the 12 months from August 1967 to August 1968 the Forestry Commission Research Branch conducted experiments at the Depot on drying and scaling close piled pine billets at Thetford. (31) (32).

The scaling investigation was aimed at establishing data on which measurement of volume by stack measure could be introduced. Initially a range of percentages, 50% to 57 % were used against stack volume on the lorry to determine sold volume but at some time during the seventies 70% became the agreed factor used in all contracts. It had certainly been in use regularly for some years by 1979. The increase is likely to have resulted from conversion of larger poles resulting in a larger mean diameter in woodwool billets.

7.2.3 Seasoning

Ideally logs were stored for about 13 weeks after peeling before conversion. Further storage was essential to achieve the specified volume weight ratio, the period depending on the season.

Different methods of stacking including covering the top of the stacks were tried but finally, probably once the Research findings were available around 1970, a standard practice was established which persisted up to closure.

Two metre billets were close piled in single length stacks to a height of 2.5 to 3.0 metres on bearers which were old railway lines placed on short billet bearers. The stacks were spaced to allow lorry loading which also allowed good air circulation around the stacks. 0.5m billets were always hand stacked two lengths wide to a height of 2 metres on bearers as with 2 metre. Building these stacks to stand secure was quite an art. In order to give stability the base had to be spread so that both sides leant inwards slightly. Andy Kotlarski one of the Polish workers whose job it was for many years, took a great pride in his woodwool stacks which were easily recognised for their neatness and stability.

7.2.4 Handling and Loading

Both lengths were hand loaded until the arrival of lorry mounted grapple cranes in the early sixties which could readily handle and load 2 metre billets. 0.5 metre billets were very difficult to handle mechanically and despite a number of investigations into alternative methods, all handling and loading was always manual. (33).

7.2.5 Quantities

In an estimate of industrial requirements of homegrown roundwood 1965-75 Brian Holtam suggested the level of requirement in softwood for woodwool would be 14,400m3 in 1965 rising to 18,000m3 by 1970 and 36,000m3 by 1975. (34).

No records are available to indicate the volumes supplied by BCD during all of this period but figures that are available suggest that BCD supplied between 35 and 45% of all the softwood used for woodwool manufacture over a period of at least 30 years.

Demand fluctuated from year to year depending on the level of expenditure on new public buildings and the state of the coal industry in later years. The expected continued increase in consumption indicated by Brian Holtam did not materialise and for many years, certainly through the seventies and eighties demand remained remarkably static. Few if any applications developed and with reducing consumption in the Coal Industry and less public building the number of companies manufacturing woodwool hit an all time low shortly after the Depot closure in 1988.

Fig 14

WOODWOOL SALES EX BRANDON DEPOT 1972 TO 1988

Year	Volume sold m^3	Average Price £/m^3	Percentage of Total Volume Sold
1972-73	8297		
1973-74	8812		
1974-75	3876		
1975-76	*		
1976-77	8408		
1977-78	*		
1978-79	7030		15.6
1979-80	8151		15.4
1980-81	7516		15.1
1981-82	6019		10.8
1982-83	6161	29.49	11.6
1983-84	6833	30.05	13.2
1984-85	6034	31.25	14.4
1985-86	6756	32.44	14.3
1986-87	7366	35.00	16.3
1987-88	7440	34.88	20.0
1988-89	3072	33.64	39.0

During conversion woodwool served to provide an outlet for diameters present in the poles being converted for which no pitwood orders were placed with an overriding minimum of 120mm. All material above 250mm went into woodwool. In addition the 0.5 metre billets were cut to adjust diameter at the butt end of a pole at the start of conversion, to cut out a bend, and to reduce waste at the tail end. No more 0.5m billets were produced than necessarily resulted from serving these three purposes. In 1980-81 the proportions were 50-50 but the 0.5 metre element was gradually reduced to 25% by 1988.

7.2.6 Method of Sale

As the product was very specialised with very few companies involved in the woodwool industry, sale was virtually always by tender. I think there were isolated instances where logs intended for the woodwool market were offered at auction usually direct from the forest but these were very much the exception and never for material produced at Brandon. The tenders took place every year the offers being due early in January for material to be collected 1 April to the following 31 March.

Medium term contracts usually formed part of the tender, normally to last 3 years with some degree of overlap in order to offer some opportunity for continuity in supply.

7.2.7 Price

Prices realised at tender became less and less attractive compared with the price which could be realised for unpeeled sawlogs at rideside and they never compared with pitwood price. This meant that woodwool was always only an unavoidable ancillary product resulting from pitwood production there being no better alternative market available.

The increase in price over the six year period shown represents a 14% increase while Cat I sawlogs sold at auction rose by 64% over the period from February 1982 to February 1987, a similar period.

7.2.8 Customers

People who have worked in the industry for many years suggest that the maximum number of companies engaged in woodwool production was 14. As far as I am aware the Depot supplied a total of nine customers but some only took very small quantities; others succeeded other companies by buying them out and usually the market only seemed to be big enough to support three companies of any size. This view is supported by the fact that during at least the last ten years only three companies submitted tenders for material from the Depot.

Fig 15

WOODWOOL MANUFACTURING COMPANIES SUPPLIED

Company Name	Location	Products		Level of Supply	Period
		Packaging	Building Slab		
British Gypsum	Kent		/	Major	Pre 1980
Torvale Building Products Ltd	Pembridge	/	/	Major	1952-88
" " "	Stanton		/	Major	Pre 1982
Wigginton & Milner	Ilkeston	/		Moderate	Pre 1982
Hereford Woodwool Hereford		/	Probably	Moderate	1968-80
RMC Panel Products Ltd	Wakefield		/	Major	1980-88
Calders & Grandidge	Boston	/		Moderate	1982-88
Downes & Breakwell	Bridgenorth	/	Minor		From 1980
G&T Evans	Newtown	/		Minor	From 1984
Marley Trident	Sussex		/	Sample loads only	1981

British Gypsum was bought out by RMC Panels Products, a new subsidiary of Ready Mixed Concrete Ltd who moved the operation to Wakefield.

Torvale operated two sites until 31 March 1982 when they shut down their Stanton operation near Bury St Edmunds and moved all the plant to their site at Pembridge near Leominster in Herefordshire.

At the time it was stated that the Industry total for woodwool/cement slab was 2 million cubic metres in 1984 of which Torvale achieved 1.3 million against a budget of 1.7 million cubic metres. Torvale budget for 1982 was 1 million which could not justify retention of the Suffolk plant. (35)

Also in 1982 Wigginton and Milner who were a small firm producing dry woodwool for packaging heavy engineering spares, sold out to Calders and Grandidge at Boston in Lincolnshire. They had supplied off cuts from their telegraph pole processing operation to Wigginton and Milner and having moved the whole plant to Boston produced woodwool there until 1989 when they sold the machinery to G&T Evans at Newport in Powys who moved the operation yet again to their Newport site where they were already manufacturing woodwool for packaging in a small way. This plant reputed to be the most up-to-date in Great Britain when it was opened in 1957 was purchased by G&T Evans in 1984. Hereford Woodwool, who I believe were also only in packaging, had ceased trading in 1980 due to lost markets.

In the mid eighties RMC Panel Products bought Marley Trident who I think had been producing woodwool slab from imported spruce billets. As far as I know they moved remaining billet stocks over an extended period but I have some doubt as to whether any plant was moved.

Marley Trident had taken some trial loads from Brandon in 1981 but nothing came of this. Downes and Breakwell produced probably amongst other things, woodwool rope which is still used and I understand they remain in business in 1989.

Their suppliers normally came from the South West but they purchased small quantities from Brandon in times of shortage with their usual suppliers.

Some supplies to them were supplied through Forest Thinnings but again only in relatively small negotiated quantities when there were surpluses at BCD.

Not long after final deliveries were made to RMC at Wakefield late in 1988 RMC ceased production leaving only Torvale, at Pembridge producing woodwool slab with Torvale, G T Evans and Downes and Breakwell still producing packaging as far as I know.

7.3 Chipwood and Pulpwood

From the outset in 1946 until around 1964/65 when chainsaw conversion in the forest started, all the poles cut in the forest were hauled to BCD for conversion and a high proportion of this was of very moderate quality from first and second thinnings.

Markets for products with low specifications other than firewood were essential and records suggest there were three, all supplied unpeeled.

7.3.1 Celotex

The Celotex Corporation which was the world's largest board producer, built their factory on the North Circular Road in 1938. Celotex Ltd the UK arm of the Company extended the plant in 1957 to become the largest board manufacturer in the Commonwealth and the site the largest in Europe. (36)

The specification for Celotex poles was very open and admirably suited to the available material in those early years.

Length - 4ft to 14ft. Diameter 1 ins to 10ins OB.
Species - All pines and hardwoods except oak, (Birch limited)

Early photographs show large areas stacked with poles being converted entirely to Celotex. No records exist to indicate volumes despatched but I am told that up to 15 lorries each day were hand loaded and despatched. These were basket sided lorries which probably carried 4 to 5 tons so it is possible that something in excess of 300 tons a week were despatched in the very early days.

Supply certainly continued beyond 1961 but although I am unable to establish when the factory closed I feel certain it was closed by 1964. In any event in Thetford by this time pole quality had improved, chainsaw conversion was imminent and the new Weyroc factory was opened in 1963 providing a local market for small roundwood direct from the forest albeit with a rather higher specification. The plant was originally built to manufacture a product called Novoboard but as far as I am aware none was ever produced and Weyroc purchased the plant. As far as I am aware no Weyroc was ever supplied from BCD.

7.3.2 Boardmill (PIM)

The PIM factory was at Sunbury on Thames where they manufactured hardboard used mainly in the car industry as well as other products marketed under the name Sundeala.

The specification was tighter than Celotex but still suited to the poorer quality material available.

Length - 37ins to 42ins. Diameter - 2ins to 6ins
Species - Pine only but small quantities of larch permissible

Again no evidence exists to suggest volumes supplied from BCD. I think it likely that quantities would have been small, although quite large volumes were supplied direct from the forest in the late sixties and early seventies.

7.3.3 Bowater

This material was supplied to Kemsley Mill at Sittingbourne in Kent, probably right from the outset but if not, certainly from the early fifties.

The specification was tighter on straightness than PIM and the minimum diameter greater.

Length - 37ins to 42ins. Diameter - 3 ins to 10ins OB
Species - Pine only

Supplies to Bowater were a regular feature of the earlier days. Two trailers would be hand loaded and parked a lorry width apart adjacent to the present service bay. Seaman Clubb was the haulage company employed by Bowater for all of the thirty five years or so that this product was supplied from Thetford.

On arrival the lorry would be parked between the trailers and a gang organised to transfer the material onto the lorry by hand.

This would have been a very regular occurrence, probably daily and continued until supply direct from the forest started, again around 1964/65. Early photographs always seem to include the two parked trailers of Seaman Clubb lorries.

Seaman Clubb's involvement almost became a permanency with fuel tanks situated adjacent to the handyman's shed and they were the last tenants of one of Bromehill Cottages. Drivers used the cottage for overnight stops between loads.

Peeled and unpeeled was supplied from the Depot probably right up to the mid sixties when supply direct from the forest started. There was one period while George Button was in charge 1950 to 1955 remembered by all who were there, when the Bowater plant peeler was out of action. Bowater lengths which had been hand peeled had unacceptable amounts of cambium remaining. Gangs were brought in to supplement depot staff to remove this cambium. The lengths were watered and each piece had to be scraped to remove the cambium, a tedious job well remembered by all who had to do it. Some made up a tool consisting of a band of wire netting with a handle attached at either end which by all accounts was very effective. I can find no-one who remembers how long the job lasted but everyone who was there at the time and those who were drafted in all recall it as an episode nobody enjoyed.

7.3.4 Change to Rideside Conversion

The arrival of pole length peeling at the Depot made possible by the purchase of the mobile Cambio Peeler in 1963 was closely followed by the introduction of increasing numbers of tractors fitted with Thetford Tongs which facilitated sorting at the time of extraction. At the same time in 1964/65 chainsaws were generally introduced. Bent poles could be sorted, stacked at rack or rideside and forwarded to landing by lorry for conversion to short pulp and chipwood lengths and stacked ready for hand or lorry grapple loading onto customer vehicles. The introduction of hydratongs in 1969 obviated the necessity to forward by lorry. Tushes of bent poles were extracted direct to landing.

The Thetford Weyroc factory was built in 1962 and opened in 1963 and as far as I can establish, no material was supplied from the Depot. Early supplies may have been crosscut using bushman saws but there were chainsaws in use in 1963 owned by men in the felling gangs. In any event, the opening of the Weyroc factory coupled with all these other developments prompted a major change in the Depot. Only selected poles were supplied reducing the space required or rather preventing the need for more. In the early sixties two sub depots at High Lodge and High Ash had been set up to produce large round props and woodwool from 6ft 6in lengths and multiples to relieve pressure on the Depot. By 1966 both were being rundown and this must have been influenced by the major change in input to the Depot. Considerable savings in haulage must have resulted as well as facilitating the production of greater volumes of higher priced products at the Depot using the same or improved resources in manpower and machinery.

Very occasionally, the odd load of Bowater would have been produced from a poor batch of substandard poles or to suite an unusual cutting pattern but these circumstances apart from about 1965 pulp/chip was no longer produced at BCD.

7.4 Harvest Poles

Early articles on utilisation of early thinnings frequently refer to Harvest Poles. These were conifer poles unpeeled 6 ft long with a top diameter 1 in to 1 in. They were joined at the top with wire in threes to form a tripod on which agricultural and horticultural crops such as peas could be hung to dry. This was before the age of combine harvesters, deep freezers and Birds Eye factories.

These poles were in great demand and at BCD they were produced in very large numbers from long tops and smallwood poles from 1946 right through to the early seventies: By then demand was very much reduced and suitable material was becoming hard to find as the age of the forest increased and with it tree size. The principal customer throughout that time was a man named Racey from Wisbech who also purchased low grade sawlogs direct from the forest well into the 1980s.

7.5 Fencing

Situated in a mainly agricultural area adjacent to the fens there has always been a good market for posts, stakes, rails and split rails, both peeled and unpeeled. In addition the forest itself required large quantities of posts, stakes and rails for fence replacement and repair once military use of the forest was again restricted to the Battle Area. Kings Forest was requisitioned for military use 1939 to 1947 when it was handed back with fences down, plantations damaged by tanks and with rabbits well and truly re-established, 39,000 rabbits being cleared off 2,000 acres in one year. (37)

Supply really fell into three periods, before the creosote plant, during the plant's existence and after its closure. During the latter half of the final period, opportunities developed for the supply of special poles for leisure use for play furniture assault courses and similar applications.

Production was labour intensive but value added very much more than covered increased cost involved. During this period retail sales were positively encouraged to good effect.

7.5.1 Pre 1947

From all accounts large quantities of unpeeled stakes were produced and it seems likely that hot and cold tanks for treatment with creosote were in use on the Depot site before 1946 when the FC took over the running of the site, implying that stakes were peeled for treatment during the war years. No suggestion has been made that treatment was ever carried out by FC on the site, but in 1947 it was decided to establish a central creosoting plant at Santon Downham "to supply the great demand for creosoted pine fencing materials resulting from the large scale planting programmes of the post war years on FC properties in East England". (38)

7.5.2 1947 to 1970

The development of the Creosote Plant and the process is very well described in Forest Record no 44 which covers the period 1947 to 1960. (38)

Unpeeled unpointed blanks cut to required lengths were supplied by the Depot. These were peeled, pointed and cross stacked to season. The seasoning yard had a capacity for 60,000 stakes and progress of seasoning was monitored by check weighing.

Throughout this period of twenty three years most of the fencing material produced was processed and sold through the Creosote Plant although minor retail sales particularly for unpeeled fencing products continued from the Depot.

Production of peeled split rails is unlikely to have started before the arrival of the Witte saw in 1964 and more likely to have been in 1967 when the Forresian Saw came into use. These were largely used for sliding barriers at roadside entrances into the forest besides being a very popular product with local trade and retail outlets. In 1966 responsibility for the Creosote Plant and its staff moved to BCD from Santon Beat.

By 1970 the availability of long tops and smallwood poles suitable for stake production was greatly reduced with only a relatively small area at the early thinning stage. So much so that it was predicted that there would barely be sufficient to keep the Creosote Plant occupied for 6 months in each year. This was not considered viable and the plant was closed in 1970.

7.5.3 1970 to 1988

On closure of the Creosote Plant all the peeling and pointing equipment together with the Decaville Track and bogies and the office were moved to the Depot.

A fencing product line was set up using the Coles Hurricane Peeler and liner saw benches for pointing. The Decaville track was laid later to link crosscutting stations to peeling and pointing operations.

Stake blanks continued to be produced from suitable material, long tops smallwood poles and the tops of Cambio poles as were posts and rails but they were now peeled and seasoned at the Depot, necessitating the site extension along the northern boundary.

All marketing of fencing products had been the Depot Manager's responsibility from 1966 so the closure presented little change and probably made life easier as all stocks were now on one site. Retail sales continued as dictated by enquiries which gradually increased but no positive efforts were directed at increasing sales in this direction.

The bulk of production had always been in 5 ft stakes with a 2 to 3in TD with a much smaller quantity of 5 ft x 3 to 4in stakes. This continued but with increasing proportions of 3in to 4in material.

Once stocks become large a proportion would be put out for tender to local companies with pressure treatment plants. The tenders would also be advertised in journals such as the Timber Trade Journal. The tenders met with varying degrees of success, depending on the general state of the market and the demand for the two sizes offered.

An association with local companies continued to develop and some took out "Open Orders" a means by which they could purchase any items included on the Conservancy price list in relatively small quantities at list price less 10% discount, conditional on a minimum total expenditure over the contract period, usually six months or one year.

By 1979 two companies were buying regularly, Chase Sawmill and Calders in Brandon and Eastern Counties Timber Co at Herringswell less frequently.

There must have been numerous customers in previous years but virtually no records exist to indicate any names, but Racey of Wisbech is recalled as being a regular customer for stakes as well as harvest poles in earlier years.

During the period 1970 to 1979 the stake market had broadened considerably not least as a result of Department of Transport roadside planting schemes which created a considerable market for pressure treated tree stakes in various lengths, few of which were 5 ft.

Increasingly tenders for all 5 ft stakes prompted reducing interest and the comment that 7ft and 8ft tree stakes would be of greater interest.

In October 1979 I inherited high stocks of peeled 5 ft stakes mainly because tenders were offered for existing stocks rather than for forward production.

In an attempt to improve matters, an improved stock control system on stakes was introduced as a first step. This was necessarily fairly complicated as it had to include control at each stage in the production of a stake ie, conversion, peeling and pointing. At the same time, efforts were made to ascertain forward requirements by the principal regular customers.

The range of sizes offered increased but lengths other than 5 ft were supplied through Open Orders. In addition, retail sales of fencing were increasing along with rapidly increasing retail sales of bark. The handy man was increasingly occupied in cutting special retail orders.

In 1981 Clarkes of Walsham-le-Willows installed a pressure treatment plant intending to treat themselves where previously their treatment had been done by Chase Sawmill of Brandon. They were immediately interested in supplies of well seasoned peeled stakes and joined other customers already tendering, successfully too, as they soon became a major customer.

In 1982 Calders and Grandidge having become a regular customer for Woodwool started to show interest in peeled fencing material for their pressure Creosote Plant at Boston.

These developments prompted the suggestion in 1983 that the five major regular customers be approached to forecast their probable requirements from the Depot for the next year. The intention being to reconcile their stated requirements with forecast production making adjustments proportional to each customer requirement where necessary.

Once agreed, letters of intent would be exchanged, the Depot undertaking to supply and the customer to collect the agreed quantities against an Open Contract at list price less 10%.

The complexity of the mix of products, the vagaries of the fencing market and the Depot problem of matching supply of poles to products ordered, all rendered a contractual agreement impractical and there was considerable apprehension on both sides regarding anything less. However, agreement was reached both with customers and Conservator and letters of intent written and signed for the year 1983-84. This gave the Depot a production plan for fencing products and the customer some degree of security in their supplies for the year.

Although significant variances occurred on both sides, reaction was favourable and the same procedure was repeated each successive year up to closure in 1988. No more tenders were offered and stocks were kept at a much lower level, sometimes almost too low for adequate seasoning, often due to customers pushing to anticipate and exceed regular equal monthly supplies programmed over the year.

Allowance was always made for retail sales on the basis of previous years demand for small quantities: One off sales of larger quantities were generally no longer possible.

The potential market was always greater than the Depot could supply increasingly through shortage of suitable material but also due to competing small prop and bungwood outlets.

7.5.4 Customers

The fortunes of companies trading in fencing products tended to be very mixed and over the years many changes occurred with companies changing hands and going out of business.

Included amongst those who traded with the Depot over the last 10 to 15 years were the following:

Fig 16

FENCING MATERIAL - CUSTOMERS

Company Name	Location	Open Order	Annual Agreement	Trading Period with BCD
Chase Sawmills later Chase Fencing Supplies	Brandon	/	/	Probably from 1966
Calders	Brandon	/	/	Probably from 1966
Eastern Counties Timber Co	Herringswell	/	/	1976 to 1986
Clarkes of Walsham	Walsham-le-Willows	/	/	1981 to 1988
Calders & Grandidge	Boston	/	/	1982 to 1988
M&M Timber	Kidderminster	/		1985 to 1988
Brandon Forest Products	Brandon	/		1984
Thorogood	Sudbury	/		1986 to 1988
F E Cordy Ltd	Norwich			1985
Ligna Timber	Melton Mowbray			1980 to 1983
Chard	Attleborough			1976 to 1984
East Anglia Timer & Panels Ltd	Snetterton			1983 to 1988
L & V Timber	Brandon			1985 to 1988

Chase sawmill was involved in the fencing trade for many years and this side ultimately became Chase Sawmill Fencing Co around 1983. In 1984 this became Chase Fencing Supplies. Early in 1986 Pallet Handling from Kent bought the company and formed Pallet Handling (Eastern) but the fencing side continued to trade as Chase Fencing Supplies as they continue to do very successfully in 1989.

Calders acquired their site adjacent to the level crossing in Brandon from Messrs Wood in 1919 where various operations involving timber were carried out including the manufacture of shoe heels from beech during and just after the war. The business eventually became totally involved in fencing having some sawing capacity as well as cross-cutting and peeling roundwood. They also had a creosote pressure treatment plant. During the late seventies/early eighties the Brandon operation was sold to Bowaters. They very quickly stopped processing roundwood concentrating on producing squared fencing material pressure treated with creosote and buying in roundwood. Brandon Forest Products was started by Andy Coombs on the railway siding site south of the Depot, having worked for Bowaters as buyer from the Calders site. He took over their roundwood stocks and set up just over the road in 1984. This company went into liquidation a year later and was followed shortly afterwards by L & V Timber, a company formed by 2 of the men previously employed by Brandon Forest Products, working from the same site. Calders ceased trading during 1988 but the fencing contracting part of the company was purchased by Calders and Grandidge of Boston to provide extended markets for their fencing products. Events had come full circle as Calders and Calders and Grandidge were originally part of the same parent company.

Ligna Timber's operation at Melton Mowbray was closed around 1983 and Eastern Counties Timber Co went into receivership in 1986.

M & M Timber bought stake blanks and larger diameter blanks unpeeled to be processed through a rounding machine. Larger diameters were used for the construction of sectional log cabins while smaller diameters made high quality stakes and rails.

During the 1984/85 miners' strike some 780m3 of peeled logs 2550mm long x 140 to 180mm were supplied to M & M for rounding to 5" and 6" diameters providing a very useful outlet. Unfortunately these sizes conflicted with pitwood once the strike was over preventing further supplies to this market.

Other than those companies mentioned as having ceased trading the rest are still in business in 1989. In addition to these trade customers a very busy retail trade developed with numerous customers many of whom were regulars. They included Local Authorities, Schools, Military Establishments, leisure Parks, Zoos and even agents supplying materials for building film and TV sets. Strouds of London were regular customers over many years and the BBC when filming series such as "Dads Army" and "Allo Allo" locally, found some of their requirements at the Depot.

Last but not least were the equally numerous members of the general public wanting a few stakes or rustic roles for their garden. Some drove quite long distances, from Essex, Cambridgeshire and Huntingdonshire for instance knowing they could usually get what they wanted at the Depot.

7.5.5 Forestry Commission Requirements

While the creosote plant existed all FC fencing requirements for East England were supplied from there and many fences still standing in the forest bear witness to the quality of the product as posts and stakes are still as good as the day they were put in.

Once closed the material was supplied by the depot having had the material pressure treated by Chase Fencing Supplies. By 1970 volumes were not great and throughout the eighties it amounted to less than 100m3 each year. Recreational requirements had generally replaced fencing which was very seldom done, the rabbit population having been dramatically reduced by myxamatosis and deer damage being insufficient to justify fencing generally.

7.5.6 Prices

No early records are available to indicate what basis was used to fix fencing product prices but I feel certain that the concept of a Conservancy minimum price list would have been an early innovation. As the creosote plant was the only FC establishment selling treated material and Thetford by far the largest most productive forest in the country, let alone the Conservancy, the experience gained locally would have had a major influence on the compilation of a Conservancy price list. This was certainly the case in later years, particularly from 1980.

It was the regular practice for Conservator to request staff throughout the Conservancy to consider price levels in the trade locally and to suggest revisions to the price list accordingly. The enquiry related to 1980/81 arrived on my desk in November 1979 having just taken over as Manager.

I put forward proposals which extended the lists considerably to cover the wide range of specifications and sizes already being supplied. The basic price was calculated from a price per cubic metre common to all sizes of stake and post which resulted in a range of product prices considered to be competitive with predicted trade prices. Prices per piece for pointing and peeling were additional and increased with size. These prices were related to production costs for those operations. Further revisions and extensions were proposed for the rustic pole and special pole price lists.

With a few minor adjustments my proposals were accepted and these formed the basis for minimum price lists for the remainder of the Depot's existence. Other modifications and refinements were added in later years in the light of further experience, changing costs and market trends. In each successive year the list became more detailed and comprehensive as the Depot product range extended.

The level of prices was intended to be competitive for trade customers assuming a 10% discount for the major customers. This undoubtedly resulted in very competitive prices for retail customers and in the last year or two before closure a 10% premium was added for retail sales of the most popular sizes which had no detrimental effect on sales at all.

The format evolved to provide four prices for each specification depending on whether or not it was peeled and pointed. From these a price per m3 could be readily calculated allowing easy extrapolation for intermediate sizes.

When the old East England and South East England Conservancies merged in April 1984 the variations in price levels due to geographical location and proximity to large urban populations rendered a Conservancy wide price list unacceptable. Certain areas, the New Forest and Sherwood particularly, retained their own specific lists and Thetford's continued specific to Thetford

Forest District alone where trade price levels tended to be marginally lower, having largely an agricultural area with no large urban populations adjacent.

Prices achieved at tender were usually up to 20% below list price so the move to negotiated sales with major customers at list less 10% resulted in a significant increase.

The price lists for 1987-88 indicate the range of specifications produced. Also included are tables used in conjunction with price lists.

FORESTRY COMMISSION - THETFORD FOREST DISTRICT

Price List from 1 April 1987

List No 1 - Untreated Mixed Conifer Stakes, Posts etc (Prices in pence per piece)

RETAIL + 10%

Length (Metres)	Specification	Top Diameter (cms)							
		3-5	RETAIL	5-8	RETAIL	8-10	10-12	12-15	15-18
1.5	Unpeeled, Unpointed	11	13	21	24	37	52	80	118
	Unpeeled, Pointed	16	18	26	29	47	65	99	148
	Peeled, Unpointed	16	18	26	29	43	62	93	138
	Peeled, Pointed	21	24	31	35	53	75	112	168
1.65	Unpeeled, Unpointed	14	16	25	28	42	60	91	136
	Unpeeled, Pointed	19	21	30	33	53	76	113	170
	Peeled, Unpointed	21	24	30	33	51	71	106	159
	Peeled, Pointed	27	30	39	43	60	87	129	193
1.8	Unpeeled, Unpointed	15	17	27	30	44	66	97	139
	Unpeeled, Pointed	21	24	32	36	57	83	121	174
	Peeled, Unpointed	22	25	35	39	54	79	115	163
	Peeled, Pointed	28	31	40	44	67	96	139	198
2.1	Unpeeled, Unpointed	17	19	31	35	55	80	117	172
	Unpeeled, Pointed	25	28	40	44	72	99	146	214
	Peeled, Unpointed	26	29	40	44	67	94	136	201
	Peeled, Pointed	33	37	48	53	84	115	164	242
2.4	Unpeeled, Unpointed	24	27	39	43	65	94	132	198
	Unpeeled, Pointed,	31	35	49	54	82	118	165	249
	Peeled, Unpointed	32	36	48	53	77	110	157	235
	Peeled, Pointed	40	44	56	62	94	135	190	286
2.7	Unpeeled, Unpointed	27		44		75	109	157	235
	Unpeeled, Pointed	37		59		94	137	195	292
	Peeled, Unpointed	37		55		90	129	184	277
	Peeled, Pointed	47		70		109	157	223	333
3.0	Unpeeled, Unpointed	29		54		90	126	178	267
	Unpeeled, Pointed	40		70		110	158	224	335
	Peeled, Unpointed	40		69		105	148	209	313
	Peeled, Pointed	51		85		126	180	255	382

List No 2 - Rustic Poles - trimmed to not less than 2cm top diameter. (Prices in pence per piece FOL)

Rustic poles are unsorted poles, and therefore if straightness is essential selected poles should be purchased. If there is any doubt as to suitability, customers should inspect a sample before placing an order.

Length (metres)	Butt Diameter (centimetres)	
	5 and under 8	8 to 10
2.4 and under 3.0	55	75
3.0 and under 4.6	80	110
4.6 and under 6.1	110	145
6.1 and under 8.0	-	200

Selected poles are of top quality, supplied for use as flag poles, tent poles, barn poles etc. The following minimum prices apply:

Under 10 cm top diameter	Unpeeled Peeled	£110 per cubic metre £120 per cubic metre
10 cm top diameter & over	Unpeeled Peeled	£ 90 per cubic metre £ 95 per cubic metre

List No 4 - Jump Poles

Length (metres)	Top Diameter (cms)	Price	
		Unpeeled	Peeled
3.0	9-11	£1.65	£1.96
3.6	9-11	£2.10	£2.50

List No 5 - Split Rails

Length (metres)	Top Diameter (cms)	Price	
		Unpeeled	Peeled
1.8	9-11	52p	61p
2.4	9-11	74p	86p
3.0	9-11	98p	£1.15
3.6	9-11	£1.25	£1.50

RANDOM LENGTH POLES Unpeeled £45 per tonne Peeled £55 per tonne

Sawdust 50p per bag
Points 25p per bag

Notes and Conditions of Sale

1. The price is FOL (free on lorry) for mixed conifer species. VAT is to be added at the appropriate rate.

2. Discount of 10% is allowable on single orders of £700 or more in value.

3. The appearance on this list of any particular size or specification is not a guarantee that it can be made available.

4. The prices on this list are subject to revision without previous notice.

5. Unless a credit account has previously been opened, orders must be accompanied by full payment, cheques (payable to Forestry Commission) being lodged with the Forestry Commission 7 days in advance of collection.

6. No claim for defects or deficiencies will be entertained after removal of the goods from the Forest or Depot unless notified to the Forestry Commission in writing within 7 days, and any goods alleged to be defective must be held for inspection by an Officer of the Commission.

LENGTH (METRES)	SPECIFICATION	TOP DIAMETER (CMS)					
		3-5	5-8	8-10	10-12	12-15	15-18
1.5	Unpeeled Unpointed Unpeeled Pointed Peeled Unpointed Peeled Pointed	0.002819	0.006436	0.011524	0.016655	0.024392	0.035621
1.65	Unpeeled Unpointed Unpeeled Pointed Peeled Unpointed Peeled Pointed	0.003215	0.007251	0.012906	0.018596	0.027166	0.039586
1.8	Unpeeled Unpointed Unpeeled Pointed Peeled Unpointed Peeled Pointed	0.003634	0.0008140	0.014333	0.070590	0.030001	0.043627
2.1	Unpeeled Unpointed Unpeeled Pointed Peeled Unpointed Peeled Pointed	0.004544	0.009901	0.017320	0.024738	0.035865	0.051938
2.4	Unpeeled Unpointed Unpeeled Pointed Peeled Unpointed Peeled Pointed	0.005552	0.011843	0.020489	0.029102	0.041987	0.060558
2.7	Unpeeled Unpointed Unpeeled Pointed Peeled Unpointed Peeled Pointed	0.006664	0.013931	0.023847	0.033687	0.048372	0.069492
3.0	Unpeeled Unpointed Unpeeled Pointed Peeled Unpointed Peeled Pointed	0.007883	0.016168	0.027396	0.038498	0.055025	0.078743

Pieces per m³
Price per m³

LENGTH (METRES)	SPECIFICATION	TOP DIAMETER (CMS)											
		3-5		5-8		8-10		10-12		12-15		15-18	
1.5	Unpeeled Unpointed	355	39.02	155	32.63	87	32.11	60	31.22	41	32.80	28	33.13
	Unpeeled Pointed	355	56.76	155	40.40	87	40.78	60	39.03	41	40.59	28	41.55
	Peeled Unpointed	355	56.76	155	40.40	87	37.31	60	37.23	41	38.13	28	38.74
	Peeled Pointed	355	74.49	155	48.17	87	45.99	60	45.03	41	45.92	28	47.16
1.65	Unpeeled Unpointed	311	43.55	138	34.48	77	32.54	51	32.26	37	33.50	25	34.36
	Unpeeled Pointed	311	59.10	138	41.37	77	41.07	54	40.86	37	41.60	25	42.94
	Peeled Unpointed	311	65.31	138	41.37	77	39.52	54	38.18	37	39.02	25	40.17
	Peeled Pointed	311	83.98	138	53.78	77	46.49	54	46.78	37	47.48	25	48.75
1.8	Unpeeled Unpointed	224	33.67	123	33.17	70	30.70	49	32.05	33	32.33	23	31.86
	Unpeeled Pointed	224	47.14	123	39.31	70	39.77	49	40.31	33	40.33	23	39.88
	Peeled Unpointed	224	49.39	123	43.00	70	37.68	49	38.37	33	38.33	23	37.36
	Peeled Pointed	224	62.86	123	49.14	70	46.74	49	46.62	33	46.33	23	45.38
2.1	Unpeeled Unpointed	220	37.41	101	31.31	58	31.76	40	32.34	28	32.62	19	33.12
	Unpeeled Pointed	220	55.02	101	40.40	58	41.57	40	40.02	28	40.71	19	41.20
	Peeled Unpointed	220	57.22	101	40.40	58	38.68	40	38.00	28	37.92	19	38.70
	Peeled Pointed	220	72.62	101	48.48	58	48.50	40	46.49	28	45.72	19	46.59
2.4	Unpeeled Unpointed	180	43.23	84	32.93	49	31.72	34	32.30	24	31.44	17	32.70
	Unpeeled Pointed	180	55.83	84	41.37	49	40.02	34	40.55	24	39.30	17	41.12
	Peeled Unpointed	180	57.63	84	40.53	49	37.58	34	37.80	24	37.39	17	38.81
	Peeled Pointed	180	72.05	84	47.29	49	45.88	34	46.39	24	45.25	17	47.23
2.7	Unpeeled Unpointed	150	40.52	72	31.58	42	31.45	30	32.36	21	32.46	14	33.82
	Unpeeled Pointed	150	55.52	72	42.35	42	39.42	30	40.67	21	40.31	14	42.02
	Peeled Unpointed	150	55.52	72	39.48	42	37.74	30	38.29	21	38.04	14	39.86
	Peeled Pointed	150	70.53	72	50.25	42	45.71	30	46.60	21	46.10	14	47.92
3.0	Unpeeled Unpointed	127	36.79	62	33.40	37	32.85	26	32.73	18	32.35	13	33.91
	Unpeeled Pointed	127	50.74	62	43.30	37	40.15	26	41.04	18	40.71	13	42.54
	Peeled Unpointed	127	50.74	62	42.68	37	38.33	26	38.44	18	37.98	13	39.75
	Peeled Pointed	127	64.70	62	52.57	37	45.99	26	46.76	18	46.34	13	48.51

7.5.7 Quantities

The demand for fencing products was usually greater than potential production, limiting factors being availability of suitable poles, commitments to pitwood and bungwood in competing diameters and availability of resources in manpower. Volumes certainly increased through the eighties but all the factors mentioned created increasing difficulties, particularly shortage of suitable material. This results from changes in harvesting methods with less scope for sorting as well as much reduced areas of early thinning.

Fig 18

FENCING PRODUCT SALES EX BRANDON DEPOT 1972-1988

	Vol Sold m3			Average Price £/m3	Percentage Vol Sold
	Retail	Contract	Total		
1972-73			1647		4.9
1973-74			2357		6.7
1974-75			2323		7.1
1975-76	No Figures Available				
1976-77			1050		2.8
1977-78	No Figures Available				
1978-79			1154		2.6
1979-80			895		1.7
1980-81			887		1.8
1981-82			1944		3.5
1982-83			2643		4.8
1983-84			2097		4.0
1984-85	923	2997	3922	35.09	9.4
1985-86	716	1951	2667	27.87	5.6
1986-87	1064	1692	2756	37.39	6.1
1987-88	1287	1752	3039	38.98	8.2
1988-89	291	-	291	19.27	3.7

N.B. Sales in 1988-89 were mainly of odd remnants of stock, mostly unpeeled, to clear the yard.

7.6 Bungwood

As far as I am aware only two companies were in the business of producing wooden bungs which were, and still are, used to give rigidity to the ends of cardboard cylinders around which textiles and paper are wrapped. Other materials have been tried including of course plastic but apparently wood still serves the best.

The two companies were:-

British Bung Manufacturing Co Ltd of Mirfield in West Yorkshire.
Moorland Wood turning Co Ltd of Thongsbridge near Huddersfield.

Both were small companies, Moorland Wood turning being a family business employing a total of four. It was always my impression that the Depot supplied most, if not all, of their raw material requirements, the attraction being the ability to supply a selection of preferred lengths with relatively accurate top diameters suited to the range of finished diameters required for their bungs. This reasonably accurate matching of diameters reduced waste and production time in that very little wood had to be trimmed off the length to reduce to the required diameter.

Seasoning was also important and as most of their requirement was in small diameters, 80 and 90mm, the billets were usually well seasoned on delivery reducing storage time in their yards.

7.6.1 Specification

British Bung	1500mm x 90mm)	
	1500mm x 110mm)	
	)	
Moorland Wood Turning	900mm x 80mm)	All peeled
	900mm x 90mm)	and seasoned
	900mm x 110mm)	
	900mm x 150mm)	
	900mm x 160mm)	
	900mm x 170mm)	

These specifications coincided almost exactly with pitprop sizes and therefore presented no problem. Moorland Wood were eventually persuaded to take a proportion of 1500mm length which could be loaded and offloaded mechanically where 900mm lengths had to be hand loaded.

7.6.2 Price

As bungwood was the same specification as pitwood and both customers required delivery, current pitwood prices per 100 lineal metres were used as a basis for negotiating prices annually. The same haulier was used for pitwood and bungwood and extra charge was made when either customer required the haulier to offload which they did increasingly. Otherwise, having only very few staff, their whole production stopped to offload manually.

7.6.3 Quantity

No commitment was made regarding quantity by either party. An open order specifying prices against the range of diameters normally required together with the usual terms and conditions was all that was agreed. The quantity supplied depended on demand and the ability to supply, which in turn depended on contractual commitments to other customers in completing diameters and availability of suitable material.

In my experience although the supply situation became a little tight on occasions both companies always seemed to end up with adequate supplies. The earliest reference to either company that I have found is dated 1976 but I was assured by both customers that the association lasted more than 20 years.

Both customers expressed considerable concern on learning that the Depot was to close and every effort was made to supply the maximum possible volume prior to closure and both companies ended up with stocks to cover production for one year. Suggestions were also made as to possible alternative suppliers but I have no knowledge of how either company fared.

Fig 19

BUNGWOOD SALES EX BRANDON DEPOT 1979 TO 1988

Year	Vol m^3	Average Price £/m^3	Percentage of Total Vol Sold
1978-80	360		0.7
1980-81	339		0.7
1981-82	845		1.5
1982-83	897		1.6
1983-84	947		1.8
1984-85	1330	42.09	3.2
1985-86	1138	44.30	2.4
1986-87	1304	48.33	2.9
1987-88	1757	51.03	4.8

7.7 Sawlogs

Diameters suitable for sawlogs were almost non existent from the poles supplied in the very early years. Occasionally a large butt would be removed with a bow saw and later by about 1952/53 an early chainsaw, to render a large pole manageable on a liner bench. These butts would be too large for pitwood and not suitable for woodwool in which case they were sold as sawlogs to local sawmills of which there were a number in Brandon.

This remained the situation throughout although as tree size increased so the volume above 250mm (the maximum pitwood diameter) supplied from the forest increased to the point where from 1980 on, attempts were made to find some outlets at a better price than woodwool for this larger material. Some success was achieved in a small way with various customers including Calders of Brandon, Challis Bros of Brandon, T&K Contractors of Brandon, S MacKintosh of Thetford, M J Elliott of Feltwell and Banbury Pallets. Volumes were around one per cent of the total volume sold and usually less.

In 1982 a medium term contract for 3,000m3 per year over 3 years was offered in addition to the woodwool tender hoping to tempt offers from sawmillers. The number of woodwool customers had been reducing, stocks were increasing and there were fears that there would be no offers for the lots offered in the tender. These fears were confirmed in that not one single offer was made, leaving only balances on previous contracts to supply against.

The medium term contract was awarded to P&R Timber Industry Ltd. This company had been set up very recently in the mill previously owned by Chase Sawmill by Peter Whetter, previously the Manager at Hopton Timber Co. He had also been successful in purchasing a substantial number of lots at the February 1982 sawlog auction.

The enterprise was short lived as it went into liquidation in September 1983 ending what had been a promising development in relation to both the Depot and the forest. Woodwool demand picked up, stocks were reduced and sawlog sales returned to their previous level, comprised entirely of minor sales of short lengths, sub standard long butts rejected at the peeling stage and old bearers to clear the yard.

Fig 20

SAWLOG SALES EX BRANDON DEPOT 1979 TO 1989

Year	Vol m^3	Average Price £/m^3	Percentage of Total Vol Sold
1978-80	260		
1980-81	186		
1981-82	1532		
1982-83	3284	23.05	6.0
1983-84	2133	23.15	4.1
1984-85	1791	23.91	4.3
1985-86	628	24.63	1.3
1986-87	860	24.23	1.9
1987-88	372	24.70	1.0
1988-89	199	12.77	2.5*

* Old bearers etc, sold by weight to clear site.

7.8 Bark

For at least the first twenty years bark was a considerable embarrassment. Hand peeling in the forest which probably started in about 1952 reduced the problem but quite large volumes still had to be dumped. At one stage Harry Gathercole was employed full time attempting to burn it in kilns normally used for charcoal production. This was very slow and the resulting dense smoke created problems well remembered by many, if the wind happened to blow from the east, as it was burnt on the site subsequently occupied by the charcoal burner.

In the period 1955/58 FC and British Leather continued to investigate the tannin content of conifer bark from a range of homegrown species. These investigations were regularly reported each year in Forestry Commission Annual Reports on Forest Research.

The horticultural use of bark was first mentioned in the 1958 report. It was being tried as a mulch for fruit trees in Hertfordshire and for poplar at Gaywood and Creran Forests.

Work on finding uses and markets for bark continued until 1960 when work was terminated partly because of lack of response by potential customers, and partly because preparation of bark for such purposes as tanning (the main line of investigation up to that time) was labour intensive in that harvesting by hand was essential.

In 1963 the first Cambio peeler was installed at the Depot and as a result hand peeling in the forest stopped.

Bark became a major problem, so much so that on occasions it was transported a matter of miles to marl pits within the forest to reduce the amount dumped within the Depot.

In 1967 Research was resumed centering principally on its use as a substitute for peat in horticulture. Jack Aaron working in the Forestry Commission Research Branch Utilisation Development Section based in London at 25 Saville Row, played a major part together with a company created in 1972 to prepare and market pulverised bark produced at a pulpmill for the horticultural industry. Their combined efforts finally established a growing market for bark to the point where in 1982 at least 14 organisations were supplying either bark or bark based potting mixtures to both commercial nurserymen and amateur growers, as well as for equestrian uses.(39) In 1971 a survey was conducted throughout Norfolk to test reaction to samples of 3 grades of bark. George Lawson covered south Norfolk and Mike Kew north Norfolk, visiting mainly horticultural businesses, nurseries, market gardens and mushroom growers but some poultry growers were also included. Mike Kew recalls that reaction to the rather small samples was generally favourable and it may be that some of the companies visited may have been influenced to try bark once bulk supplies became available. I think at least one or two of the samples would have been milled or pulverised but this could only have been done on the Christie Norris hammer mill as the survey preceded the arrival of the new peeler and bark mill.

Dumping of all bark produced continued at least until 1973 when a second peeler was installed and by 1977 a pulveriser had been installed but pulverising was only possible in dry conditions. Sales continued to be minimal but records indicate that sale of pulverised and unpulverised bark separately started in 1978/79.

Interest had grown sufficiently by 1979/80 to make sale by tender worthwhile. At that time pulverised bark produced from the 1973 plant was deposited in a large heap behind the peeler building. "Unpulverised" or "As peeled" was deposited into trailers and dumped in a large heap on the bark dump area.

The start up of the new peeler plant, installed as part of the redevelopment in May 1981, provided ideal storage facilities and data from which much improved forecasts of production could be made and pulverising was possible for most of the year.

The market for bark was by this time very well established, so much so that the bark which had been dumped over so many years became a saleable commodity and an arrangement was negotiated with a local firm whereby they dug the bark out and FC loaded. Demand continued to increase and in spite of seasonal variations in uptake bark stocks never exceeded storage capacity and the need to dump bark never arose again.

7.8.1 Specifications

Three specifications were available, two produced and the third being the material in the dump. Species was restricted to Pine only, this being the conifer bark containing the least toxins and turpenes harmful to some horticultural subjects.

a. Pulverised - initially this material was put through a 15mm screen ensuring particle size would be no greater than 15mm. Difficulties in pulverising wet bark and complaints that when used as a mulch this material started to blow away in dry weather prompted a change to a 25mm screen which suited production and customers. It was sold as fresh with no undertaking given regarding maturation. Storage was considered essential to allow heating up to occur, rendering volatile products present in the bark harmless and in some cases positively beneficial.

b. As peeled or Unpulverised - came straight from the peelers and particle size covered a much greater range. Again it was sold as fresh with no guarantee of storage.

c. Dump - contained some soil and flints and had a higher PH value than either of the other two products. Much of it remained virtually as it was when dumped in depths up to six and eight feet but in digging it out the particle size became more uniform resembling pulverised bark but with a slightly larger maximum size.

7.8.2 Applications and Use

Pulverised bark was used principally as a mulch, our customers supplying local authorities, the Royal Parks, Botanical and Horticultural Gardens and Chelsea Flower Show regularly featured Depot bark in various applications.

Camland, a regular customer for many years, developed numerous potting composts containing bark for use with specific subjects.

Pulverised was also used to give a fine top surface to coarser base material, either peeled bark or chips, in both equestrian and playsurface applications.

"As peeled" bark was generally used in equestrian applications for gallops, winter and indoor exercise areas and schools. It was also used as a base in play areas particularly after television reports concentrated attention on the accident potential inherent in hard surfaces such as tarmac or concrete.

Prices paid were usually less for "As peeled" compared with pulverised and as the price of pulverised rose progressively some customers started to use "As peeled" as a mulch. It was probably just as effective in all but appearance but for this reason alone most customers preferred to continue to use pulverised for mulching.

Dump bark was limited in its use but some certainly was supplied for mulching. Again it did not look as attractive as pulverised and the higher PH value and soil content reduced its effectiveness, but it was considerably cheaper. I believe one or two nurserymen used it for plungebeds over a number of years and at the time of writing before the sale of the Depot Site, Doug Rolph continues to buy limited quantities of this material.

7.8.3 Customers

In 1979 there were around twenty companies on the tender circulation list. This number was reduced in successive years to about fifteen, partly because some firms had ceased trading but mainly because very few ever submitted tenders. Regularly only five or six companies submitted offers and with only one or two exceptions the same two companies, Camland and Doug Rolph, were successful in securing all the lots offered or sharing them.

Retail sales to the general public had started by 1979. Local people were permitted to bring their own bags of a specified size, dustbin liners or fertiliser bags, and fill them themselves.

This business multiplied almost tenfold between 1979 and 1988 and in order to protect the volumes offered at tender a limit of nine bags per person had to be introduced.

Customers travelled many miles regularly each year to collect bark for their gardens.

7.8.4 Price

With the introduction of tenders in 1979 prices were as determined by the tenders. Retail sale price was adjusted in line with movement in tender prices and dump bark price was negotiated using the percentage increase achieved at tender as a basis.

In 1979 £5.05 per cubic metre was paid for pulverised while as peeled or unmilled bark went for £3.05 per cubic metre. Volume was as measured loose once loaded on the lorry with no allowance for settling.

Maximum price ever paid for pulverised bark was £14.60 per cubic metre, equivalent to around £40 per tonne, and unmilled achieved an all time high at £13.00 per cubic metre. A differential of about £2 was maintained throughout which constituted a progressive reduction in percentage terms which probably resulted from some customers installing equipment to mill or pulverise bark themselves.

7.8.5 Methods of Sale

Before 1979 sales would almost certainly have been by negotiation as there were insufficient potential buyers for a competitive sale.

From 1979 a regular pattern of 6 monthly tenders became standard practice with both 6 and 12 month periods for collection in order to give some degree of overlap and continuity. Medium contracts over 3 years were also offered at intervals as an added means of securing continuity. Accurate production forecasts were essential to the success of this method of selling as with any forward sales. A year or two operating with the new peeler plant and bays provided data not previously available which was of great benefit in avoiding significant shortages or surpluses.

As already indicated retail sale was offered to local people but this had to be curtailed to protect contracted volumes.

7.8.6 Quantities

As a result of data collected once the new peeler complex came into use in 1981 it was established that it was reasonable to assume that the volume of bark for sale would be 22 per cent of the overbark volume peeled and was roughly 50 per cent greater than solid volume e.g. 50,000 m3 ob peeled would produce 11,000 m3 of bark as sold.

Once the new peeler plant came into use there was an open option to produce milled or unmilled bark.

As milled bark regularly commanded a better price and there were almost no limitations on milling due to wet bark, proportions moved increasingly in favour of milled, a situation which appeared to suit customers.
The mix settled finally at 75% milled, 25% unmilled which served to keep the market open for both products at levels which appeared to be in keeping with demand. Sales from the dump totalled 19,500 m3 during the ten years from 1979 to closure.
Retail sales which stood at 114 m3 or 1140 bags in 1979/80 rose to 550 m3 or 5,500 bags by 1986/87 producing an income of almost £9,000.

Fig 21

BARK SALES EX BRANDON DEPOT 1978 TO 1989

Year	Vol m^3			Average Price £/m^3	Percentage of Total Vol Sold
	Milled	Unmilled	Total		
1978-79	3393	3447	6840	)	15.2
1979-80	2822	6036	8858	)	16.8
1980-81	3993	4519	8512	) Figs not	17.1
1981-82	6187	7158	13345	) available	24.0
1982-83	8971	4530	13501	6.64	24.6
1983-84	6403	7609	14012	7.14	27.0
1984-85	6787	2901	9688	10.37	23.2
1985-86	5478	2297	7775	11.66	16.4
1986-87	6350	2109	8459	12.97	18.7
1987-88	6211	2128	8339	12.79	22.6
1988-89	-	199	199	3.85	2.5

NOTE Unmilled volumes include bark from the dump and average price is greatly influenced by the proportion of bark sold from the dump in any year. Volume sold in 1988-89 all ex dump.

7.9 Wastewood and Sawdust

The process of crosscutting large numbers of poles into short lengths necessarily produced quite large quantities of short offcuts and rejected material unsuitable for any of the available markets and, of course, sawdust. The combined volume accounted for at least 2 per cent of the total volume sold and amounted to anything from 2000 to 5000 cubic metres, annually, this last being by far the highest figure for 1984/85 the year of the miners' strike

Continual efforts were made to find improved markets but it was only in the final few years that any significant progress was possible.

7.9.1 Wastewood

From the outset in 1946 wastewood always found a ready market with regular firewood merchants who probably had firewood rounds selling spit firewood blocks by the bag. The fact that it was pine rather than hardwood was of little consequence. Living in a predominantly conifer area the population were well used to burning pine on their fires.

Once poles were peeled in the forest and as a result were partially seasoned before conversion, the resulting offcuts were even more desirable as fuel.

Firewood remained the sole outlet until 1963 when Valentine Wood Ltd, a company based at Silchester, near Reading, owned by a Mr N Michnik, set up a charcoal operation at the eastern end of the Depot using wastewood as raw material. This company had been producing charcoal in mobile metal kilns on forest sites all over the South of England for many years.
Some of the sites were on estates leased or sold to the Forestry Commission where the estate had cleared the remaining hardwoods. Valentine Wood compounded the cordwood to an agreed site using an old short wheelbase ex army "Quad". Kilns were brought in together with a caravan where the charcoal burner would live for the next few months or years until all the cordwood had been burnt to make charcoal. Bob Traves, the charcoal burner, had moved up to Risbey Wood in Suffolk from Liphook in Hampshire in 1960, with his wife Rosemary who much later became a clerk working in the Depot. They lived in a caravan on site and moved to Wordwell then West Stow and finally Thorpe Great Heath at Croxton which were all Forestry Commission sites, moving from Croxton to the Depot in 1963. Bob Traves gave up the work about two years later and was succeeded by Bill Scott who is still burning today in 1989.

Forestry Commission Forest Record No.121 describes the production of wood charcoal and it is in fact Bill Scott working on the Depot Site which is featured on the front cover. (40)

Wastewood was thrown into parked trailers and delivered to the charcoal site adjacent to the railway at the eastern end of the Depot.

Payment was based on the weight of charcoal weighed over the Depot Weighbridge but arguments regarding price frequently arose from a failure to agree on the conversion factor wood/charcoal. Estimates had varied from 7 to 1 up to 12 to 1.

It was therefore proposed in 1975 that payment from 1 July would be per tonne of wood "in the condition in which arises", weighed on trailer over BCD weighbridge and delivered to site. The agreed price for 75/76 was £3.75 per tonne which at the 7:1 conversion ratio suggested by Mr Michnik was equivalent to £26.25 per tonne of charcoal, a bare increase on the price for the current year agreed in April 1974.

Correspondence relating to this new basis for payment states that charcoal weighed out in year ending 31 March 1975 was 171 tonnes and 183 tonnes in the previous year ending 31 March 1974. It was also stated that expected future supplies wastewood would amount to between 2000 and 2500 tonnes per year.

In the early seventies, available evidence suggests 1971, the operation was moved further east out of the Depot to the site it still occupies Cpt S123 between Fire Route 21 and the railway.

In 1976 following a fire on the site a conditional licence was drawn up in order to exercise more control over the area occupied and the way in which the operation was conducted.

Further fires in 1980 prompted an extension of the site into Cpt S61. A new hard metalled road provided the boundary on the northern edge and a fire trace along the railway boundary together with FR21 down the middle all gave improved access and broke the site up to aid containment of any fires that did occur. Some previous incidents were known to have been the work of an arsonist active in the Brandon area who was eventually caught and convicted. Stocks were usually very dry and fears that sparks from the kilns mights start a fire prompted a condition of the licence that drums of water should be strategically placed throughout the site at all times.

During the winter of 1983/84 it became apparent that Valentine Wood were in difficulties; invoices were not being paid and supplies were stopped. Early in 1984 the company, whose main business was kiln drying imported hardwoods, went into receivership and along with it the charcoal business. Bill Scott, the charcoal burner on the Brandon Site expressed a wish to take over the business on his own account and eventually this was agreed but it took three months during which time, no wastewood could be delivered to this site. The FC had not been paid for some of the stock on the site and all the stocks had to be valued for the purpose of purchase by Bill Scott through the Receiver.

For the first time since the arrival of charcoal burning in 1963 there was no outlet for wastewood. Small quantities had been sold as firewood since the late seventies but no regular customers existed. All the wastewood produced during this period was tipped on the site of the old Bromehill cottages. They had only just been demolished and the site roughly levelled.

The charcoal site was very well stocked and the prospect appeared to be that although Bill Scott was going to continue the business his outlets would be considerably restricted compared with his previous employers. They supplied industrial users with graded charcoal, the grading being done at their Silchester premises, besides restaurants and retail outlets for barbecue charcoal. Bill Scott had only a very primitive grading facility, a frame riddle or sieve onto which the charcoal at the bottom of the kilns could be thrown to separate out the dust and smallest particles. He had no storage space under cover and his market was restricted to restaurants and wholesale/retail sales for barbecues. It seemed unlikely that his requirements for wastewood would take up anything like the total volume produced.

Woodburning stoves were in vogue and the winter of 1984/85 was quite severe. Firewood sales were encouraged and within a very short space of time stocks were virtually cleared. Demand continued in spite of regular increases in price which also justified similar increases in the price charged for material sent to the charcoal burner. From 1984 this was supplied on demand and was usually around 400 to 500 tonnes annually.

The price of firewood rose to £16 per tonne with no noticeable reduction in demand. Most of the customers came with vans and pickup trucks and all were self loaded. A very few customers came with bulk tipper lorries which were loaded by FC.

The maximum price paid by the charcoal burner was £14.50 per tonne. He paid for around 50 tonnes in advance of delivery which together with the very much reduced admin. time and cost involved justified the reduction.

Plate 15. From 1963 wastewood was sold to a charcoal burner on site. Charging the kiln.

Plate 16 General view of the 1963 charcoal site. It was later moved further away to reduce problems created by smoke.

Firewood sales were such that during the last two winters sales had to be stopped periodically to allow stocks to build otherwise customers would queue up waiting for the next trailer load. The opening morning after a period of closure would see a queue of vehicles at 7.00am waiting for the weighbridge to open at 7.15am.

Customers were many and varied, mostly householders but there were a number who obviously ran firewood rounds and calls from Social Security investigations regarding the activities of some of the clients were not entirely unknown in fact some were investigated regularly. The Depot staff had no complaint as all payment was by cash on collection on the basis of a weight ticket. Various enquiries into possible alternative outlets for wastewood, usually as fuel or for chipping, all came to nothing. Ultimately firewood sales could have taken total production but the piecemeal sales were expensive in administrative time and although the price per tonne was greatly improved the value per cubic metre left room for improvement.

Fig 22

WASTEWOOD SALES EX BRANDON DEPOT 1978 TO 1989

YEAR	FIREWOOD		CHARCOAL		TOTAL		
	VOL m3	AV PRICE £/m3	VOL m3	AV PRICE £/m3	VOL m3	AV PRICE £/m3	PERCENTAGE OF TOTAL VOL SOLD
1978-79	-	*	2014	*	2014	*	4.5
1979-80	408	*	2050	*	2458	*	4.7
1980-81	51	*	1776	*	1827	*	3.7
1981-82	251	*	1758	*	2009	*	3.6
1982-83	588	5.50	2698	6.00	3286	5.91	6.0
1983-84	316	5.75	1718	6.00	2034	6.00	3.9
1984-85	2645	7.29	520	6.58	3165	7.17	7.6
1985-86	2221	8.99	440	9.00	2661	8.99	5.6
1986-87	1563	10.30	336	10.83	1899	10.40	4.2
1987-88	1466	11.62	447	10.83	1913	11.43	5.2
1988-89	170	7.36	144	10.16	314	8.65	4.0

* Figure not available

NB. Volumes were calculated on the basis of 1.2 or 1.3 cubic metres per tonne depending on the season.

7.9.2 Sawdust

From 1946 until the installation of the pendulum cross cutting line in December 1971 sawdust remained where it fell contributing to the general difficulties in wet weather. Aerial photographs taken 1970/71 clearly indicate the lines of sawdust laying where each bay of poles had been converted by liner saw bench. Conversion of Cambio poles continued on liner benches until 1976. Possibly heaped accumulations may have been cleared to the bark dump but it really was not until static conversion lines came into use that sawdust was deposited in such a way that it could be collected and sold.

The sawdust either dropped into a pit or was blown into a heap or a container, trailer or silo. From there it was taken by tractor and trailer and tipped on the bark dump site to be heaped up periodically by a front end loader.
Until about 1982 the only significant outlet for sawdust was through a haulier who supplied a company who manufactured high quality bricks of various shapes used to line kilns. Sawdust provided the bulk base to which china clay and many other materials were added.

The company operated at Tiptree near Colchester and although they preferred hardwood sawdust, they could use softwood sawdust and did, particularly when hardwood sawdust was in short supply. The same lorry which had a capacity of around 25m3, always collected and the price £25 per load remained the same for a number of years.

By 1982 there were indications that other outlets might be developing and various avenues were explored. Advertisements appeared in journals seeking supplies of sawdust but nothing came of numerous contacts made. There were some unusual enquiries, one from a man seeking supplies to set up a factory to produce maggots for anglers on a national scale. He collected samples but that was the last we saw of him. Another company engaged in smoking fish at Great Yarmouth required pine sawdust to create a particular colouring for the Spanish market. A number of loads were sold to this customer but Depot sawdust was generally too wet for their purpose.

Yet another company called Technical Animal Feeds took samples in 1983 to test the potential of sawdust for use as animal feed after chemical processing but nothing further was heard.

In April 1984 Stevenson Bros of Avonbridge near Falkirk enquired about sawdust supplies. They were already hauling sawdust out of sawmills in East Anglia to Airsrew Weyroc at Hexham and Caberwood in Stirlingshire.

A price of £3 per tonne FOL was agreed, this being equivalent to approximately £9 per cubic metre as loaded. This arrangement continued successfully for a year the sawdust being loaded direct from the bark dump heap. This method of storage was less than desirable as it was impossible to keep it clean and relatively dry. Considerable quantities were wasted to avoid including dirt and soil.

Forecasting and management of bark production and stock in the new peeler plant had improved considerably by this time allowing one bark bay to be used for storing sawdust. this improved quality immediately and in 1985 the first sawdust tender went out. No quantity was specified, the agreement being to supply as available over a six month period Kronospan were successful at £5.20 per tonne FOL. Successive tenders in subsequent years resulted in continuing improvements on the price, the last tender before closure realising £16 per tonne from Kronospan.

This very significant improvement in price besides perhaps reflecting the improvement in the quality of the sawdust was indicative of the increased competition for small roundwood and residues resulting from the very considerable investment in new plants producing particleboard, MDF (Medium Density Fibreboard), OSB (Orientated Strandboard), and paper during the mid and late eighties.

Retail sales although only involving small volumes continued throughout to a variety of customers from local residents for pet bedding to a local abattoir for their livestock lorries.

It was ironic that during all the years that sawdust was available for sale a company called Lignacite was producing insulating building blocks using sawdust as one of the constituent materials just over the railway line from the Depot. Unfortunately the sawdust produced by the various saws in use was unsuitable for their use, the particle size being generally too small and the bandsaw element being much to fine.

Fig 23

SAWDUST SALES EX BRANDON DEPOT 1979 TO 1989

YEAR	VOL M3	AVERAGE PRICE £/M3	PERCENTAGE OF TOTAL VOL SOLD
1979-80	1084	*	2.1
1980-81	676	*	1.4
1981-82	851	*	1.5
1982-83	877	1.00	1.6
1983-84	356	1.00	0.7
1984-85	969	1.17	2.3
1985-86	1016	1.69	2.1
1986-87	991	2.30	2.2
1987-88	620	4.80	1.7
1988-89	6	5.00	0.1

NB. * No figures available.

Volumes in earlier years were calculated using assumed weight/volume ratios. From 1985 vehicles were measured and sawdust was relatively much drier. As a consequence prices stated should be considered with caution both individually and in relation to each other and prices per tonne quoted earlier. Their only real value is to indicate the rate and scale of improvement.

8. OPERATIONS AND PROCESSES

8.1 Unloading and Stacking

8.1.1 Manual

All lorries delivering poles to the depot were unloaded manually for at least the first 2 years until a crane was purchased in 1948 purely for that job. Some manual offloading continued for a while but only on a very much reduced scale. John Deacon recalls the hazards in offloading the 2 articulated trailers loaded with peeled poles. Pins were knocked out allowing the poles to fall off leaving the remainder to be handled off! The rate paid in 1957 for hand offloading lorries was 1/6d (7 pence) per lorry. Whatever the method of unloading, poles were always close stacked in bays with the pole length across the stack usually butts one way. Manual stacking imposed a physical limitation on the height of the stacks which was expensive on space.

Early photographs indicate stack height to have been around 5 feet. Even at this height it must have been a 2 man job probably the driver and another man from the Depot workforce.

8.1.2 Crane

A decision was made to purchase a crane to handle offloading in 1948. Stan Cator, who had worked for the Commission before serving with the RAF during the war, was working on the construction site of the new power station at Ipswich operating a crane. He was approached to consider rejoining the Commission at the Depot to become the operator of the new crane which he did, starting before the crane arrived.

Once in service, lorries which had a pay load of around 5 tons, were loaded in 2 lifts with a pair of rope slings inserted beneath each lift. On arrival at the Depot the crane would offload using the rope slings which were pulled out by the crane and returned to the driver for the next load. Using this method stack height could be considerably increased although for subsequent conversion removal was by hand which could be hazardous if the stacks were too high, which from all accounts they could be at times.

The arrival of lorries equipped with Hiab Cable Cranes, probably around 1957 took some of the graft out of loading in the forest but offloading by crane continued, being very much more efficient and quicker.

A bonus system for loading in the forest and delivery to the Depot was introduced probably during the late fifties following the introduction of the cable cranes. A meeting was held at Santon Downham to discuss its introduction. All drivers were invited to attend including Stan Cator as Trade Union representative for the Depot.

It became apparent that the crane driver was not included in the bonus scheme. Stan questioned the justice and sense of this situation as he unloaded the lorries and was therefore the key to one end of the operation.

The point was taken and after discussions at Conservancy level a bonus system for the crane operator and slingman was devised.

In a schedule of Brandon Depot Rates of Pay dated 1957 the crane driver and mate shared 1/- (5 pence) a load for each load over 12 loads per day!

By 1966 the bonus had increased to 7 d per lorry for the crane driver and 6 d for the mate, equivalent to 6 pence shared for every lorry unloaded. This latter rate was based on Standard Minutes indicating Work Study involvement.

The gradual introduction of lorries equipped with grapple cranes, the first in early 1963, reduced and finally ended the requirement for crane offloading some time between 1966 and 1970 when no rate was allocated.

8.1.3 Lorry and Hydraulic Grapple Crane (Hiab)

From 1963 cable cranes were replaced by grapple cranes gradually doing away with the necessity for manual assistance with loading in the forest and the crane to offload in the Depot.

Poles were still stacked in bays as before but from 1963, when the mobile Cambio Peeler arrived, poles were unloaded and stacked to suit the peeler operation. There was a tendency to stack too high.
The ideal was 5 feet because although the peeler was fed by a tractor mounted grapple crane, outfeed after peeling was by gravity up to a height of 5 ft. It was therefore impossible without manual stacking on the outfeed side to feed in from an 8 foot stack. Wally Rosher wrote at length suggesting that excessive stack height, up to 8 feet sometimes, was the reason for reduced outputs which were being investigated by Work Study in 1966. He also mentioned the need to adjust the output side to suit ground conditions at each stand, non adjustment resulting in poor stacking.

Delivery continued by lorries equipped with Hiab grapple cranes right up to closure. In 1972 trials were carried out using the mobile peeler in a static role. This became possible due to the arrival of the Volvo Front End Loader which provided an effective means of lifting and transporting poles from a stack laid down by a lorry, presenting them to the peeler and taking them away and stacking them after peeling.

The trials gave improved outputs and eventually resulted in proposals to install a new electrically powered static Cambio peeler with lorry feed direct on to an infeed deck thus reducing handling. This was installed and started up in 1973, while the old mobile peeler remained static. See para 8.2.

From this time poles were stacked to maximum height possible, around 2 to 2.5 metres resulting in a saving of space. Lorry capacities continued to increase and the introduction of a heightened cab with Hiab control levers inside, not only reduced terminal loading time compared with external side mounted controls but allowed all weather working. Both factors contributed to increased productivity and a gradual reduction in the lorry fleet to 4 at the time of closure in 1988. (41) (42) (43) (44) (45) (46) (47).

8.2 Peeling

Throughout the 42 years of production peeled and seasoned pitwood was the principal product. During the first 6 years supplies were sent to collieries all over the country some requiring peeled and others unpeeled. In those early years hand peeling was the only available method. In 1952 pitwood supply was rationalised nationally and as a result almost all the pitwood supplied from Brandon had to be peeled. At about this time peeling was moved out into the forest, pole lengths being peeled before carriage to the Depot. Hand peeling of products cut from poorer quality unpeeled poles continued until machine peeling became possible with the arrival of the Kingslaw machine probably in 1956/57. This was designed as a short length peeler and it was not until 1963 that pole length peeling started in the Depot with the arrival of the Mobile Cambio. Any short length peeling that was required continued on the Kingslaw until the Cundey mobile peeler arrived on the scene around 1969.

Development of the pole peeling operation using the Cambio Peeler continued with the mobile peeler going static in 1972, the installation of a new Cambio with Bark Mill in 1973, and finally the new peeler plant with 2 Cambio Peelers and a Bark Mill in 1980/81.

In 1970 on the closure of the Creosote plant the Depot inherited a Coles Hurricane peeler for stakes which continued in use until the purchase of a Valen Kone VK10 which replaced it. This remained in use until closure.

8.2.1 Hand Peeling

Initially both pole lengths and end products were peeled. Peeling spades and draw knives, sometimes specially bent to a curve, were used depending to some extent on personal preference. It is said that the Polish workers preferred the draw knife.

Peeling spades or irons were used only for poles and longer props resting on the ground. Draw knives were used for poles or end products, props and woodwool, but they would be raised to a comfortable working height, the poles on trestles and short lengths on a peeling horse. This was a roughly constructed device providing a bench on which to rest the product with a stop against which the end would rest while removing bark by pulling the draw knife 2 handed towards the stop. This would usually consist of 2 stakes driven into the ground and a "bench" nailed across.

Somewhere around 1952 a decision was made to peel pole lengths as part of production in the forest. There were large stocks of unpeeled poles in the Depot and men were brought in from the beats to assist in getting all the poles peeled as from this time Depot supply was to be concentrated on collieries requiring peeled and seasoned. Once all Depot stocks were peeled and with mostly peeled poles coming in peeling of poles ceased. Certainly no provision for piecework rates for peeling poles appears in 1957 Schedule of Rates for the Depot, where provision was made for hand peeling and stacking pitprops. See Appendix 4d. Rates ranged from 7/- (35 pence) per 100 pieces of 2 feet x 2-2 in TD to 31/8 (£1.58) per 100 pieces for 5 feet x 5 in TD. I can find no reference to any work on hand peeling in the Depot by Work Study which suggests that machine peeling by Kingslaw had taken over completely by the late fifties. However, Norman Dannatt, Work Study Officer at Thetford from 1962 assures me that work was done on hand peeling as part of the appraisal made prior to purchasing the mobile Cambio 35 in 1963.

8.2.2 Machine Peeling - Shortwood other than Fencing

The very first peeling machine to be used at Thetford was the diesel driven Coles Hurricane Post Peeler used at the creosote plant from 1947/48. This apart, the first machine used at the Depot was the Kingslaw peeler and all the evidence suggests this was in 1956. Trials with the machine peeling woodwool billets at Mortimer Forest were reported in the FC Journal for that year and piecework rates for the Kingslaw were included in the 1957 Schedule of rates for Brandon Depot. These rates were for hand feeding and included knotting, the removal of proud knots where necessary using a billhook. Prices per 100 pieces ranged from 1/10 (14 pence) for 1 feet x 3 in TD to 19/- (95 pence) for 5 feet x 5 in TD.

Plate 17. Peeling pitprops, Kingslaw peeler.

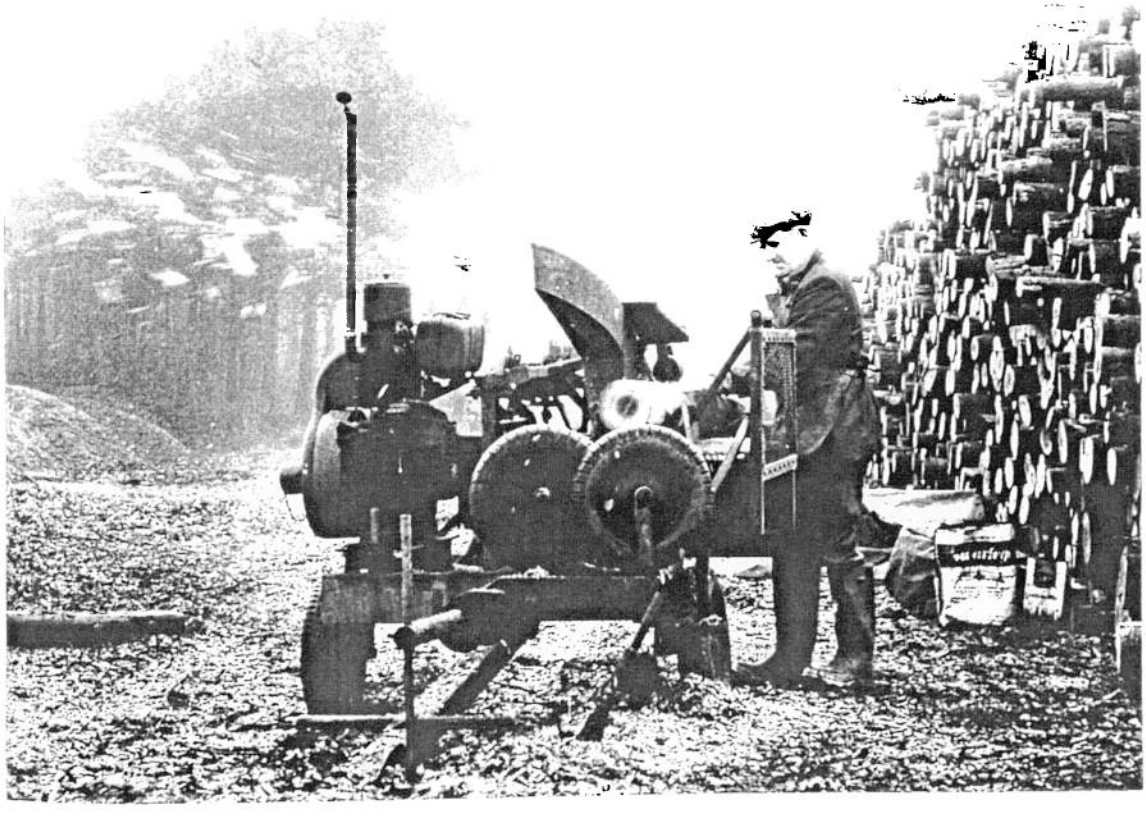


Plate 18 Peeling 2 metre woodwool billets, Cundey peeler.

The Kingslaw remained in use up to around 1969 when the Cundey Peeler appears to have replaced it. Its role had changed with the start of pole length peeling on the Cambio peeler and by 1966 it was only used to peel 6 ft lengths cut from unpeeled pitwood poles for pitwood and/or woodwool billets.

The Cundey peeler was used for the same purpose from about 1969, 6 ft lengths for Powell Dufryn, woodwool or pitwood were either peeled at rideside or sent to BCD for peeling to supplement the volume peeled by the Cambio.
In 1970/71 6,000m3 were peeled by Cundey along with 3,000m3 peeled by hand in the rack and 6,500m3 Cundey peeled was forecast for 1971/72 in a case for a second Cambio put by Brian Hibberd.

It was 1978 before Work Study produced a Standard Timetable for the Cundey (48) probably stemming from interest in South Wales or Dalby Forest. An addendum to Work Study Brandon Depot Report No 1 dated 4/61 Machine Peeling of Poles - Kingslaw obviously indicates that poles could be peeled on this machine but I believe this was very much on a trial basis and the lack of any evidence (even the addendum itself) to suggest that poles were peeled on any scale suggested that the trials were not very successful. At the very least the lifting involved must have been a problem. In any case by this time, perhaps 1962, thoughts had turned to Sweden and the many developments towards mechanisation of forest operations there.

8.2.3 Machine Peeling - Poles

The FC Work Study Team at Thetford was formed in 1960 and considerable attention was turned towards BCD in particular during the early sixties. At the same time developments in Sweden were creating considerable interest. Some visits by FC staff had already been made to Holland, Norway and Sweden during the late fifties and early sixties. In September 1963 Norman Dannatt, working with Work Study and the English Directorate Mechanical Engineer, W C Anderson, visited Sweden to investigate developments in peeling and extraction. (44) Bowaters at Sittingbourne and Wiggins Teape at Sudbrook were using the Cambio 70-35 AC peeling machine and Wiggins Teape also proposed to use it at Fort William.

As a direct result of this visit an order was placed for a trailer mounted Cambio for Brandon Depot, delivery to be before the end of 1963. In addition a 2 ton No 176 Hiab Elefant hydraulic crane mounted on a Fordson Super Major tractor was to be used to feed the Cambio. Once installed the pole specification for input to BCD changed to Cambio poles and long butts generally in 6 ft multiples.

Initially only Cambio poles were peeled presumably leaving long butts to be hand peeled in the forest. Work Study Report No 15, the second interim report, describes pole size as being 7 to 28 ft long and 3 to 8 ins butt diameter UB average 19 ft x 5 in butt.

Work Study were very closely involved throughout and various interim reports describe the layout, process, progress and problems experienced extremely well. (49)

Unpeeled poles which had been stacked in windrows or bays ideally 5 ft high were fed to the peeler feed deck by the tractor mounted hydraulic crane. The tractor also powered the Cambio peeler. The peeler operator pulled logs from the feed deck onto powered V rollers using a "peavy", a heavy spiked and hooked implement fitted to a long handle. The powered rollers fed the poles into the powered hedgehog rollers and through the peeler to an automatic gravity outfeed capable of feeding poles to a maximum height of 5 ft. Each time the tractor cleared to its maximum reach or the outfeed side was full the whole set up had to be resited.

Many problems contributed to a low percentage hours in effective use which was reported as being 41, 53 or 71 per cent in trials depending on whether a 2, 3 or 4 man gang was used. Poles were fed tip first to give butts level presentation in the peeled windrow, essential to facilitate the subsequent cross cutting operation.

The variety of lengths and diameters present and no doubt the greasy nature of fresh peeled poles lead to 11% in time lost squaring up the windrow.

It was also recognised that given maximum lineal feed speed, pole diameter had a major influence on volume peeled. Various suggestions were made to improve output including peel long butts as well as Cambio poles, sort poles into windrows of like lengths and start shift working.

The declared objective in 1963 had been to mechanise all peeling in the Depot, the programme at that time being 18,000m3 pitwood poles and 5,400m3 stakes and woodwool. (31)

Throughout the ensuing years correspondence and reports indicate that actual performance regularly fell short of that predicted and that hand peeling and Cundey peeling was essential to achieve anything like required volumes. It is not clear quite when long butts as well as Cambio poles were first put through the peeler but total volumes peeled from quite early on suggest that long butts must have been included. They would of course have been generally smaller than those in later years due to the ever increasing tree size.

Little could be done to sort other than into the 2 basic pole categories; a situation which persisted and became even less possible as new harvesting methods developed. In addition any move towards rationalising pole sizes into uniform products from random only served to reduce the suitable volume available.

Ian Campbell, Depot Manager from 1966, recalls that he started 2 shift working in 1966, 6am to 2pm and 2pm to 10pm Monday to Friday, Saturday 6am to 4pm.

Stan Cator remembers the start well because after 3 or 4 weeks unpeeled pole stocks ran out in the middle of a shift. The men were instructed to clear up bark and sawdust at time rate. They consulted with Stan, who was beat Steward, who instructed them to go home. This was one of the few instances when a dispute stopped work. It was finally resolved in consultation with the District Officer who agreed to pay two thirds of piecework pay rate for all the time lost.

As a result of shift working, potential production was thought to be 29,000m3, still well short of the total peeled volume required.

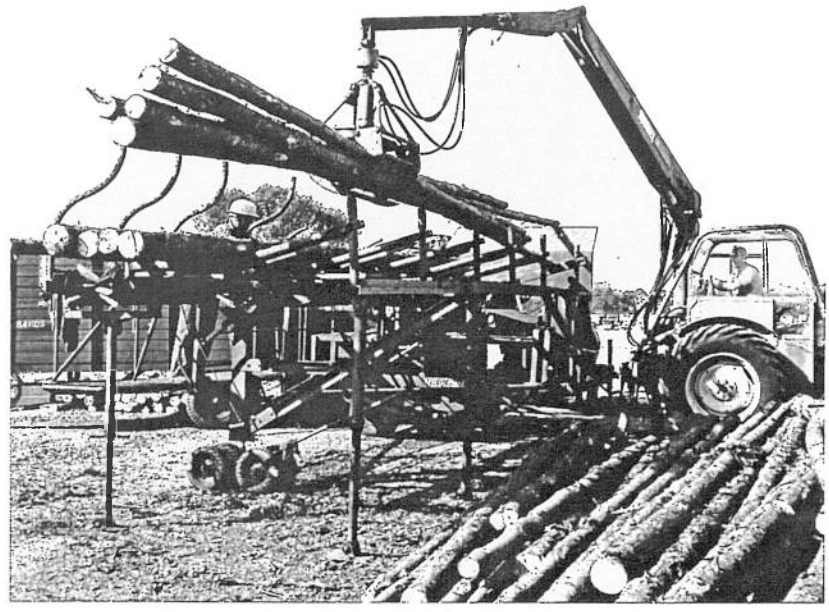


Plate 19. Tractor powered mobile Cambio peeler introduced 1963.

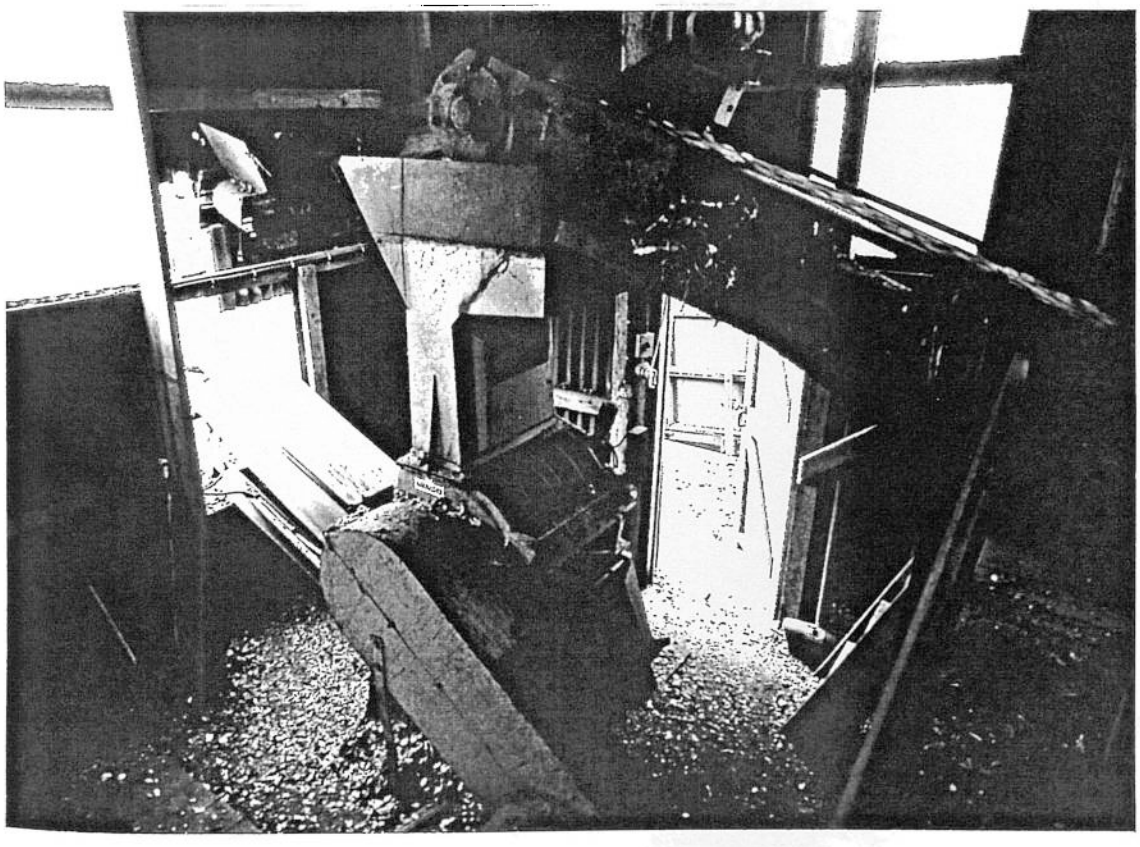


Plate 20. The first Bark Mill, added to the second new Cambio 35 peeler in 1977.

In December 1966 at a meeting held to consider peeling and cross cutting at the depot, Bernard Hughes District Officer at Thetford expressed doubts that 29,000m3 could be achieved, particularly as operators had indicated reluctance to continue overtime and shift working beyond March 1967. As a consequence he considered there was a prima facie case for a second peeler which was put in detail in a memo dated 12.12.66.

The 1968 Work study report No 15 resulted from this 1966 meeting and after further discussion with Stan Cator and the peeler operators, the following letter sanctioning proposals for a return to shift working was sent to Ian Campbell by Bernard Hughes in February 1968.

" U/

15.3.68

Mr. Campbell.

Cambio Peeler - Hours of Work. Summer Period from 1.4.68

Thank you for your minute of 15.3.68.

I confirm approval to your proposals for working, viz:-

Daily.

Team A	6.00 a.m.	-	9.00 a.m.
" B	9.00 a.m.	-	12.30 p.m.
" A	12.30 p.m.	-	1.00 p.m.
" B	1.00 p.m.	-	8.00 p.m.
	Meal Break	-	5.30 - 6.00p.m.

Saturday.

Team B	6.00.a.m.	-	12.00.noon.

The teams will alternate each week.

The target at present is 18,000 h.ft. per week and if we can achieve this in the 5 days then Saturday morning working can be stopped.

Please thank Mr. Cator for his help.

B.D.Hughes.
District Officer.

Copy: A/Con. (H & M). - For information. "

It was evident from this and other documents that double shift working was confined to 6 months during the summer with single shift working probably with overtime in the winter.

Work Study checks on weekly output in May 1970 confirm that 2 shift working was in operation then. A letter from Brian Hibberd in September 1972 making yet another case for a second Cambio peeler implied that shift working may have continued throughout the previous year, the volume peeled by the Cambio being 22,000m3. In 1972 trials took place operating the peeler as a static machine. This had become possible with the arrival of Volvo front end loaders which were capable of lifting, conveying and feeding poles to the peeler as well as removing them after peeling.

Brian Hibberd reported in the same letter that in 11 weeks of trials, output had averaged 500m3 per week giving a potential annually of 26,000m3 with no shift working, compared with the previous years actuals, 423m3 per week and a total of 22,000m3 with shift working. On this occasion the appeal must have been successful because by August 1973 a new static peeler plant came into operation which included a new Cambio 70-35AA with feed and outfeed works for poles and bark. Bark could be fed through a bark mill or not as required and conveyed by elevator/conveyor to a stack yard at the rear of the building. The layout was designed and constructed by JHB Implements Ltd of Ickburgh, Norfolk and was intended to be operated by one man. Poles were to be placed on the end of the infeed from where they were conveyed over a series of cascades to the powered rollers which fed the poles one at a time to the peeler. The purpose of the cascades was to sort and eventually single the poles which were to be placed direct onto the infeed by incoming lorries thus reducing double handling. A complex means of clearing rubbish from beneath the cascade conveyor based on water was also included. The whole operation was intended to be operated by one man from a central control cabin. The peeler and bark mill operated very successfully but the major limitation was the cascade conveyor. In spite of numerous modifications over a considerable period it never did work satisfactorily and the waste clearance never functioned at all to my knowledge. The conveyor was finally abandoned, cut away and a simple level, chain feed conveyor installed with a cat walk above the infeed roller conveyor to the peeler from which a second man pulled poles onto the roller conveyor using a peavy. The area under the conveyor had to be cleared manually at least once a day as brash and bark which dropped through the conveyor built up rapidly.

The conveyor and waste clearance system was a very expensive failure which was remembered by the workforce and resurrected on a number of occasions when further development proposals were discussed or pay rates negotiated.

The mobile Cambio continued in static operation, peeling mainly Cambio poles alongside the new peeler until 1981 when it was sold once the new 2 peeler complex, installed as part of the major redevelopment was up and running, having been in continuous heavy use for 18 years.

The new peeler complex was designed and built by M I Edwards (Engineers), a local firm who had already done work at the Depot and knew fairly well what was involved.

Graham Hobbs, the Depot Manager up to October 1979, had drawn a diagrammatic representation of what he considered the requirement to be, based on past experience and all the data which had been collected over 18 years. Design capacity was to be 70,000m3 over bark per year, this being the predicted volume input once redevelopment was complete.

Tenders were invited for a turn key contract to design and build a peeler complex based on the diagram and data provided.

All existing data on peeling output up to that time was based on running hours recorded by a meter. As a result of sampling, lineal feed speed was calculated and mean diameter assessed.

All outputs recorded and commented on in volumetric terms were entirely dependent for their accuracy on the assumptions made regarding mean diameter which in turn very much depended on the proportions of Cambio and long butts and the range of diameters within each category.

There was reason to doubt some of the outputs recorded and in order to accurately assess the performance of the new plant it was agreed that a measuring device be included in the design.

The final date for tenders was 30 May 1980 and the successful company, M I Edwards, signed the contract on 4 July. The plant was ready for operation by mid April 1981 and after selection and training of operators it came into full operation in early May.

One of the 2 peelers was the old 1973 Cambio 35 which had been completely rebuilt. During the 3 to 4 weeks that it was out of service peeled stocks were reduced to around 7 weeks conversion, half the normal stock. The new plant consisted of 2 Cambio peelers, the rebuilt 35 and a new 71-45 CA together with a 36" Blackfriars bark mill. Each peeler was fed through a high level conveyor fed by Volvo loader. The logs rested on 2 pairs of continuous chains which conveyed the logs to a trough situated at the end of the conveyor. The conveyor decks were plated to prevent rubbish accumulating underneath. The rubbish was carried forward into the trough beneath which a slatted conveyor was situated to carry rubbish out to a parked trailer. Logs in the trough were singled up on a series of sails mounted on ramped continuous chains and dropped onto kicker cams. The cams placed logs singly onto a diabalo roller conveyor which presented the logs tip first to the peeler. On emerging from the peeler the log was automatically kicked into a large bin, butts pretty well level, ready for collection and stacking by a Volvo loader. Both peelers functioned in the same way. Bark dropped onto cross transfer conveyors which met on the centre line over a hopper beneath which a continuous belt conveyor ran conveying the bark up to a hopper situated above the bark mill. The option to pulverise or not was available by operating a flap in the hopper which served to bypass the bark mill or not, as required. The bark was conveyed at low level on down the centre line under the control cabin and out through the back of the building to another hopper. An elevator conveyor mounted on a pivot pin could be moved through an arc of 180 degrees to deposit bark in any position in any one of 6 bays with a total capacity of at least 2,200m3.

The bark bays had a tarmac base. Steel sockets were set in concrete at 3 metre intervals and RSJs were slotted into the sockets with channels in line. Square sawn timber baulks were then slotted into the channels between the RSJs one above the other to form the bays. The timber was Oak and Elm cut from trees on the Blenheim Estate in Oxfordshire, some were elms planted to commemorate the Battle of Waterloo which had succumbed to Dutch Elm Disease.

All the timber was pressure treated with Celcure, a real "belt and braces" measure although it is only fair to record that absolutely no sign of any deterioration appeared in eight years use.

Within a few weeks of use it was necessary to strut the back walls of the bays with tubular steel struts set in concrete, as the pressure resulting from loading bark from the bays with a front end loader was distorting the back walls.

The elevator conveyor ran on a specially constructed semi-circular concrete track with a steel stop at either end.

As a precaution against metal getting into the bark mill a large magnet was situated directly above the conveyor carrying bark into the hopper above the bark mill. Immediately beyond it, a metal detector also placed above the conveyor activated a switch to stop the conveyor if any metal passed the magnet.

The line drawing on page 121 was produced by Keith Austin the designer/draughtsman working for Mike Edwards at the time.

Fig 24

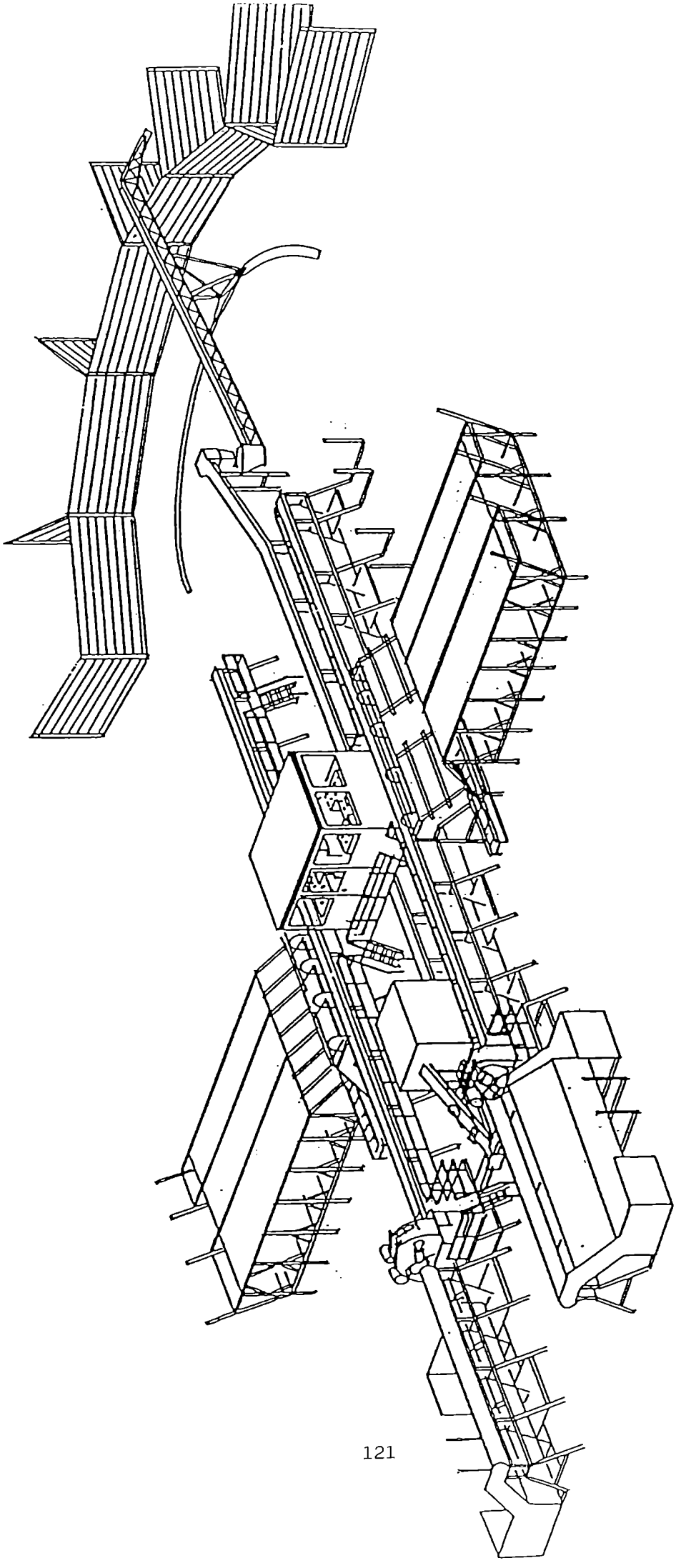


Plate 21. General view of the peeler plant commissioned in 1981 as part of major redevelopment.

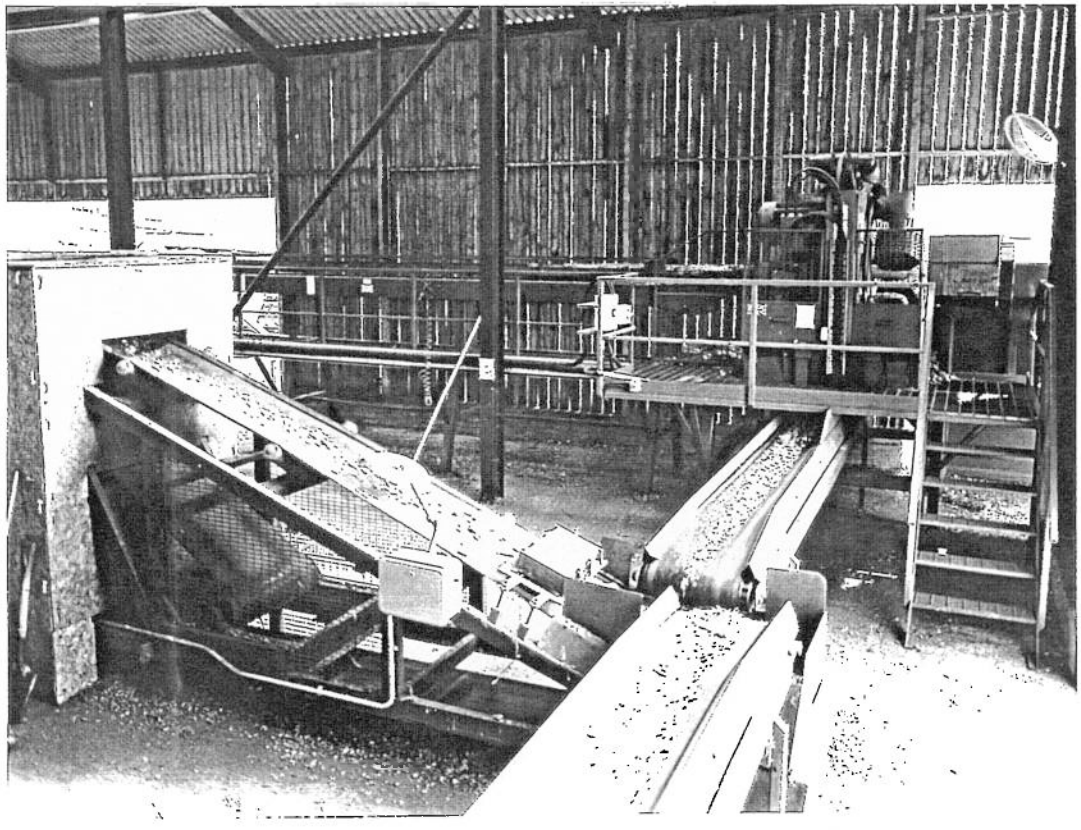


Plate 22. Cambio 4.5 peeler with cross conveyors feeding bark from Cambio 4.5 and 35 onto elevator conveyor passing under a large magnet and metal detector before entering the hopper feeding the Blackfriars Bark Mill. The lower conveyor bypassed the Bark Mill to produce unpulverised bark.

The whole plant worked very well right from the outset. Minor problems were quickly sorted out and the waste conveyors, which frequently broke due to flints causing them to seize up, were eventually abandoned and taken out. This gave more headroom for the man cleaning up and the job really took no more time.

Considerable delays occurred with the measuring device. This was designed to sense diameter at 12cm intervals, count the number of senses and the number of poles and with this information through a computer situated in the control cabin, calculate volume and mean diameter. A display indicated length in metres, mean diameter to 3 decimal places and volume to 1 decimal place for each peeler separately and an emergency power supply protected the memory in the event of a power failure. Measurement of diameter was derived from lineal movement as the infeed hedgehog rollers opened. Calibration and programming to give accurate information compared with actual measurements took many months but once the problems were overcome, the information provided was invaluable. Output was dependent on the quality of presentation on the feed deck, the quality and diameter of the poles and operator skill. Apart from very cold spells when bark was frozen on the poles and the bark conveyors became coated with ice and the bark would not rise on the belts, weather had no effect on the operation.

Long butts were normally peeled on the 45 and Cambio poles on the 35.

Lineal feed speeds available are detailed below. There were 4 on each peeler, the 2 with single black asterisks were available at the touch of a button, the one marked in double asterisks being that normally in use as the result of experience. The other 2 were available by changing pulleys.

Fig 25

BCD PEELER COMPLEX - LINEAL FEED SPEED OPTIONS

2 (35)	CAMBIO M/MIN	MOTOR SPEED	MOTOR PULLEY	GEAR BOX PULLEY	INFEED SPEED M/MIN	
	45	960	132	132	46	
	39	960	132	160	38*	
	34	720	132	132	34.5	
	29	720	132	160	28.5*	**
1 (45)	72	960	212	132	74	
	47	960	132	132	46*	
	36	720	132	132	34.5*	**
	23	720	132	212	21.5	

* IN USE

Meters recorded running hours for both peelers and the bark mill and each peeler had a pole count display independent of the measuring device. The combined information given by these various devices was both more comprehensive and more accurate than ever before, providing valuable data for management and forecasting.

Five men were required to run the mill. Two men each with a Volvo loader to feed and take away, one to each peeler, 2 peeler operators and a cleaner who cleared bark and brash from under outside conveyors and bark from the floor area inside the building. Output improved as operator skill developed until the Cambio 45 average 29m3 ob per running hour and the Cambio 35 about 10m3 ob. These figures are taken over a year against clock hours. The ratio of 3 to 1 long butts compared with Cambio poles was very uniform, mainly because Cambio poles were about a third the volume for a given length but also because they were more difficult to process through the infeed system.

From 1985/86 all telegraph poles produced at Thetford and in later years from further afield within the Conservancy were peeled on the Cambio 45. Length was restricted to 9 metres or less, this being the length of the outfeed bins, but this excluded very few. The quality of peeling was preferred as it left almost no cambium which improved drying compared with hand peeled poles. This move to depot peeling resulted partly from an agreement with British Telecom to supply seasoned poles in place of green poles as previously. The poles were stored on an area of concrete at High Ash just north of Mundford. Unfortunately they did not store well and many were rejected.

The peeler plant handled the volume required throughout its life. Occasional overtime was required at peak periods but generally peeling was restricted to the normal 8 hour day.

The plant was never required to peel the predicted 70,000m3 for many reasons discussed elsewhere, but had circumstances demanded, it would not have been possible. As with the previous 2 peelers actuals never did measure up to predicted outputs. Lineal feed speeds were overestimated because insufficient allowance was made for interruptions in flow, the influence of diameter on volumetric output was very critical and productive running hours expressed as a percentage of total hours were never as high as predicted.

Fig 26

VOLUMES PEELED 1981 TO 1988

Year	Volume m^3			Total
	Cambio	Long Butts	Telegraph Poles	
1981-82	10,332	30,437	-	40,769
1982-83	11,685	33,298	-	44,983
1983-84	11,123	32,753	-	43,876
1984-85	10,290	31,500	-	41,790
1985-86	11,091	28,217	1,395	40,703
1986-87	12,851	27,474	3,855	44,180
1987-88	7,120	26,375	2,869	36,364

Plate 23. Bark conveyor operated from control cabin to fill any one of six storage bays.

Plate 24 Cross cutting hand peeled pitwood poles on a Liner sawbench. Note the large number of products and sizes, all stacked separately for hand loading onto trailers

Although successful in its entirety perhaps the most successful aspect of the plant was the bark processing and handling. The presentation in bays was ideal from every possible viewpoint.

The bark was clean, separated in manageable quantities allowing despatch in the same sequence as production, giving maximum time to mature; stock control was simple and checks against calculated production of bark were possible. One end bay was almost twice the capacity of the other five this being used for unmilled bark.

The new arrangements played a major part in the development of the market for bark, if for no other reason than the very high quality of the product. A draft Output Guide was prepared by Work Study but events leading up to closure precluded its introduction. (50)

8.3 Conversion

8.3.1 Crosscut and Sorting

8.3.1.1 Liner Bench

From the outset in 1946 crosscutting was partially mechanised in that petrol driven liner saw benches inherited from TPD were used. These were very heavy table benches with 4 small diameter (approx 9") cast iron wheels and a tow bar. Petrol engines soon gave way to diesel and eventually 16 benches were in use.

The liner saw would be positioned at the end of a windrow of poles and operated by 2 men, the cutter and the tail man. A wooden batten known by some as the spline was fixed to the bench at right angles to the blade on the outfeed side. This was marked to indicate product lengths to be cut. A pole was lifted from the stack by both men and placed on the bench. The cutter would size up the pole and decide how it should be cut depending on the cutting list for the day. Poles were fed butt first, the butt being lined up on the mark for the first product length and then the whole pole pushed onto the circular saw blade. The tail man supported the weight at the tail end and fed the remaining length to the cutter for subsequent cuts.

Products were roughly stacked separately behind and around the bench, larger products close to, while smaller products and firewood would be thrown to heaps further out. At intervals the bench had to be manhandled closer to the stack and in this way the conversion would progress the length of the windrow. Ken Winstone recalls that to earn a good weeks pay they reckoned to move the bench 3 times in the morning and twice in the afternoon, each working day. The pay rates for 1957 included an allowance of 1 hours at basic time rate per week for moving saw benches. Otherwise at that time payment was per 100 pieces with a rate for each size cut irrespective of pole size or whether it was unpeeled or peeled. A 2 ft x 2-2 inch prop paid 1/4d (6.65 pence) per 100 pieces while a 9 ft x 8 inch prop paid 45/10 (£2.29) per 100.

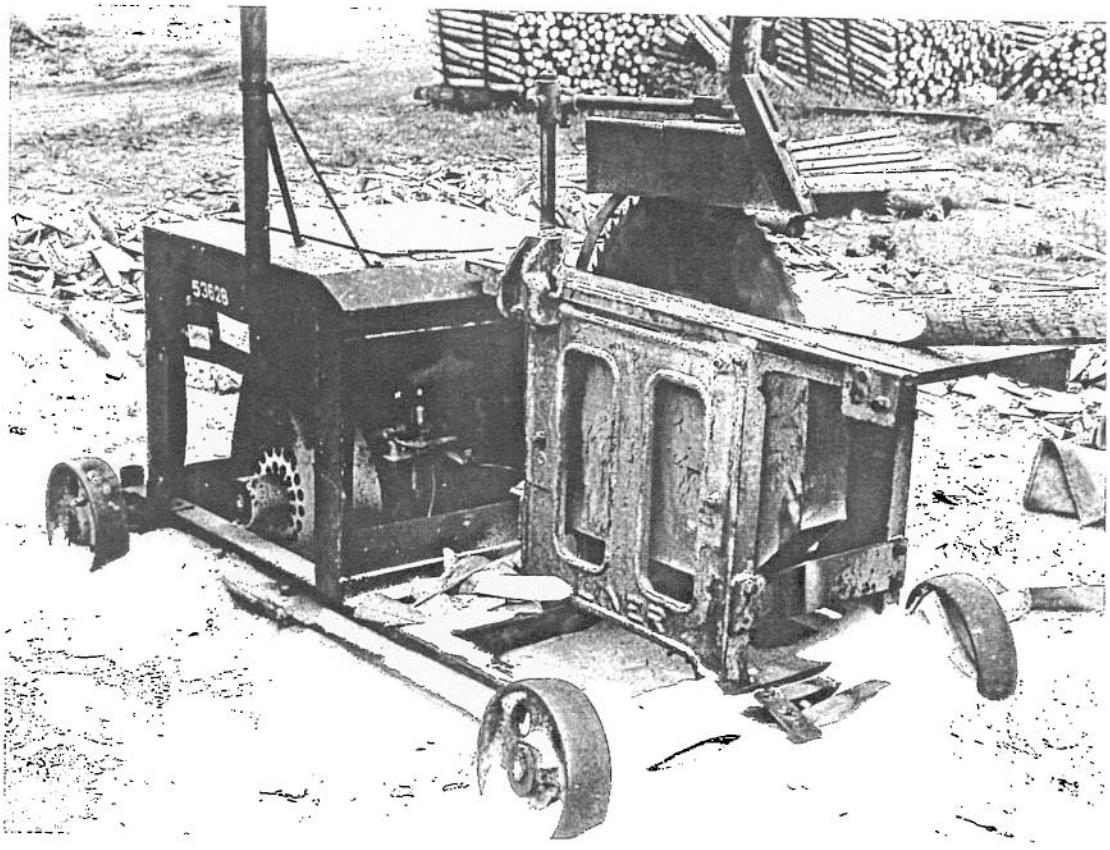


Plate25. Diesel powered Liner sawbench used for virtually all crosscutting up to 1971

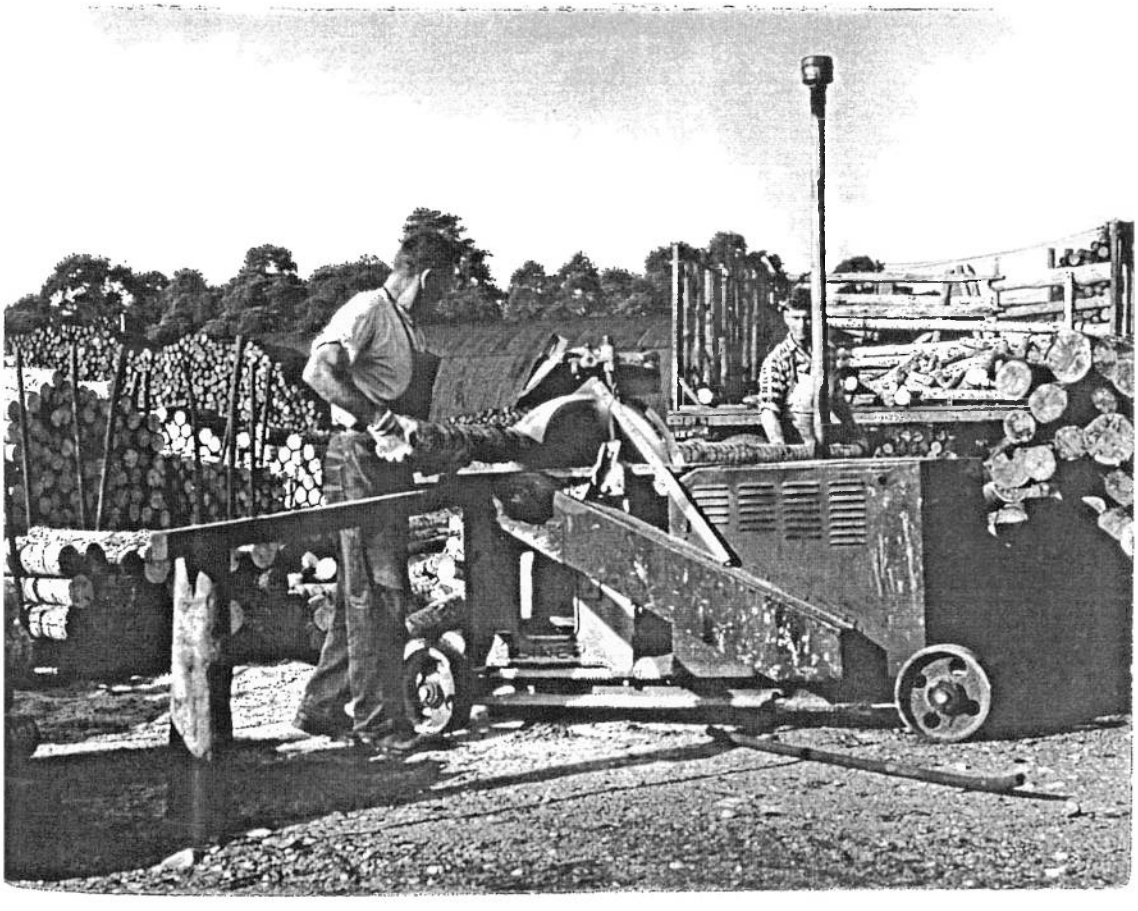


Plate26 Liner sawbench in use. Note measuring spline to left and "boxes" which facilitated sorting, stacking and stock control and dramatically reduced hand loading.

The job specification for the first 8 to 10 years was "Handling poles from pile, Cross Cutting, Grading and Stacking" and during this period stacking as described earlier was sufficient to allow each product to be hand loaded onto a tractor and trailer for subsequent stock piling or immediate loading onto rail wagons or lorries.

By 1966 the specification had changed to stacking for crane loading as by this time Hiab lorries were self-offloading and the crane released to loading. Products would either be close piled on bearers in piles equivalent to a single crane lift or more likely in crates or "boxes" as they were known. As tree size increased the poles handled in the depot became larger and heavier. Even in the earliest days the exceptional big pole would be reduced to manageable weight by removing a large prop or boxwood/sawlog length from the butt. A bushman or bowsaw was used initially but Rex Whitta recalls using a chainsaw, probably a Jobu or Homelite in the early fifties, possibly 1953, giving way in time to Danarm saws, the DD8F and DD110.

Standard times were produced by Work Study in 1960/61 from which the Brandon Depot Piecework Bonus Rates for 1966 were obviously derived. (51) For daily use the standard times were converted to cash value rates in the schedule. In the 1957 schedule there were rates for 77 different sizes of pitprop and the comment that proportionate rates were to be paid for other sizes and of course there were all the other products in addition, indicating that even in those early years without splits the sheer number of product sizes was formidable.

8.3.1.2 Chainsaw Conversion

Throughout the early sixties increasing tree size demanded increasing effort to lift poles onto the liner benches and even the removal of a butt length failed to reduce the weight to reasonable proportions. By the mid sixties tractors were in general use in the forest but mechanisation to relieve the problem in the Depot was a long time coming. Back and other strains were frequent occurrences as witnessed by entries in the accident books.

The first partial relief came from the introduction of chainsaws for converting the larger poles or long butts. In spite of considerable research I am unable to find anyone who can positively say when this occurred. Pat Mitchell is emphatic that he started chainsaw conversion when he moved from Didlington beat and the High Ash Depot to BCD in 1964. Certainly rates for converting peeled logs into 6 ft 1 inch woodwool billets and 20 and 24 inch woodcemair (an early name for woodwool/cement building slab) were included in the Rate Schedule for 1966 but pitwood was not included.

Plate 27 Chainsaw conversion of large diameter Cambio peeled Long Butts, too heavy for Liner bench conversion.

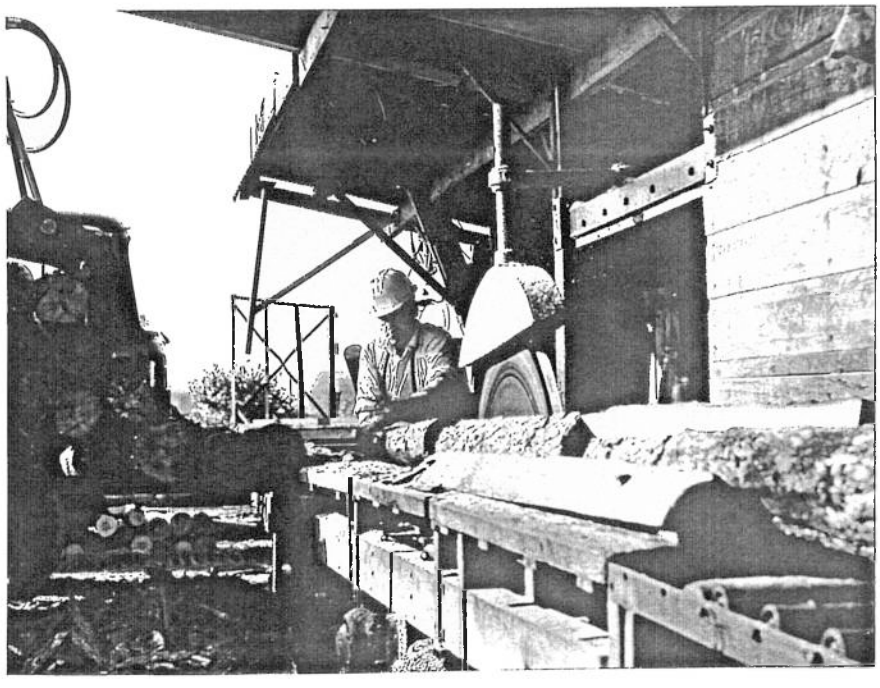


Plate 28. Splitting on the Forresian Saw purchased in 1984. Previously only small quantities were possible, pushed through on a Liner bench!

Two Standard Times were produced by Work Study. One unfortunately undated gives the Danarm DD8F as the saw to be used which means it definitely predates the 1970 table which lists the Husqvarna 100 saw.

The rates included in the 1966 schedule are limited to woodwool products and are obviously derived from the first table which really confirms Pat Mitchell's recollection. The preamble to both tables clearly describes the method used in considerable detail. (52) (53)

Two men working as a team pulled 15 to 30 poles from the windrow onto bearers. One man marked the poles for cross-cutting with scribe or timber crayon and a marked stick while the other cross-cut the poles. Once the batch was marked up the marker would sort and stack ready for loading joined by the chainsawyer once all the poles were cut. This operation did not involve actually lifting the poles in length but handling them from the stack and sorting and stacking the end products still involved lifting very considerable weights. The 1970 Standard Times list 1.5 hoppus feet as the largest unpeeled prop and 2.0 hoppus feet as the largest peeled product. This implies weights of 110 to 130 pounds (50 to 60 Kgs) which although within the law it involved very considerable effort with equal possibility of strains and other injuries.

8.3.1.3 Moves Towards Mechanisation

Notes of a discussion between representatives from Work Study, Mechanical Engineering and local staff held in December 1966 at Santon Downham (54), confirm that management were increasingly aware of the need to resolve the problem of increasing weight in the poles for crosscutting.

They saw the resolution of the problem in 2 stages:-

a) The immediate need to remove the lifting operation from the sawbench operators.

b) The possible ultimate need for a more sophisticated saw with a greater output.

Two proposals were made with stage a) in mind. The first, a suggestions by Fred Platt, working locally with Work study, to fit roller benches. The second to find a mechanical lifting device to either load poles onto portable racks constructed at bench level which would be moved with the bench, or to use similar racks in a static position with the machine feeding poles and removing products. It was suggested that each bench would require 12 tonnes of poles per day presumably some indication of the lifting done by the 2 men on a liner bench!

Work Study were to arrange a demonstration by Messrs Cameron Gardener of Basingstoke, of one of their machines which, presumably, finally resulted in the purchase of the fork-lift attachment made by this Company which was used behind a tractor right through to closure in 1988. Various reports indicate that the trials did get off the ground but those who remember the trials recall that the hydraulic device was too slow in its operation.

Any work done along the lines of option b) was always worthwhile in retrospect because it formed the basis of much of the development which took place once Graham Hobbs became Manager in March 1970.

8.3.1.4 Splitting 1964-1971

Splits were used in the mines long before they were supplied from home grown sources. They were usually cut from imported peeled pitwood lengths or round props in wharfinger yards, or at the collieries themselves. In 1964 a German Witte saw was demonstrated at the Blackbushe Show. This was a forestry exhibition mounted by the Forestry Commission in conjunction with many other sections of the forest industry on Blackbushe Airfield in Hampshire. It appears that the Witte saw had been purchased by the Commission for use at BCD because Ken Winstone was sent down to the show to demonstrate the saw. It had 3 circular blades set in a front pair and one in the centre further back. The logs rested on a V shaped channel in which a dogged chainfeed ran. The whole unit was mobile and powered by a Gardiner Diesel engine. The front blades could be set at varying widths and the intention was to produce sawn mining timber products, a major departure from previous past practice. Presumably, increasing pole size and moves towards import substitution prompted this development.

Splits had been produced on liner benches but only on a small scale, understandable because splits were required in the larger sizes requiring a lot of effort to push them through on a liner bench, particularly 7' x 7" (2.1m x 17cm). It is not clear when splits were first produced, but there is no reference to splits in the 1957 piecework rate schedule. In the schedule issued in July 1966 provisional rates are listed for 11 sizes:-

Fig 27

SPLITS - SCHEDULE OF SIZES 1966

SIZE	PRICE (EACH)	SIZE	PRICE (EACH)
4 ' x 4" x 2"	1 d	6' x 6 " x 3 "	2 d
4 ' x 4 " x 2 "	1 d	6 ' x 5 " x 2 "	2d
5' x 5" x 2 "	1 d	6 ' x 6" x 3"	2 d
6' x 4 " x 2 "	2d	7' x 6" x 3"	2 d
6' x 5 " x 2 "	2d	7' x 7" x 3 "	2 d
6' x 6" x 3"	2 d		

It, therefore, seems reasonably certain that no significant volume of splits was produced prior to the arrival of the Witte saw in 1964.

In addition to splits, crown trees and sleepers as well as other square sawn products for the mines were produced. The saw was situated at the back of the strip of mature pine between the office and the railway boundary. Cut lengths in the round produced on the liner benches were stacked adjacent to the infeed on the saw possibly by a tractor mounted Atlas crane. Two men operated the saw, a cutter who lifted the length onto the infeed rails lifting the feed dog against the butt end, and the second man who removed the products and stacked them, probably into boxes.

This departure from purely crosscutting to further processing, even squaring received a mixed reception. Many suggest that George Lawson was less than enthusiastic and certainly some local sawmillers expressed concern and some objected. To my knowledge square sawing has always been considered outside the remit of the Forestry Commission, a restraint referred to on many subsequent occasions when the Depot has been under review. Whatever the reason, my impression is that the Witte Saw was not used as much as it might have been. The 1966 schedule of piecework rates includes prices for splits with no reference to any of the other products, suggesting that by this time production on the Witte saw was restricted to splits and probably box bearers which, before its arrival, were produced for the Depot by Calders over the road.

In 1967 a new splitting saw was purchased from Scotland. It was known as the Forresian Saw and had been used as circular rack bench with a cranked rack carriage. The blade was probably 42" in diameter with inserted teeth which used to last about a month with sharpening. Ken Winstone recalls George Lawson asking, some weeks after its arrival, why he wasn't using it. He replied along the lines that to go back to hand cranked feed after using the Witte with chain feed would be to quote "Going back fifty years".

Mr Jones, of J H B Implements Ltd at Ickburgh, was called in and using the Witte saw chain feed as a guide built a similar chain feed for the Forresian Saw, which was also a mobile saw, but unlike the Witte which had its own engine unit, the Forresian was powered from a tractor. Once the chain feed was completed the Forresian went into service in place of the Witte saw on the same site. A tractor mounted Atlas Crane was used to move round props to the site within reasonable reach of the man feeding the saw.

Again, Ken Winstone recalls splitting 2 to 3 articulated lorry loads a day, possibly 50 to 75m3 or around 40 to 60 tonnes! Piecework rate schedules in successive years from 1966 to 1971 indicate an increasing number of sizes with provision for 28 in 1971 and more added in manuscript.

Studies were carried out in 1967/68 providing a basis for rates introduced in 1969 (55). Different rates per standard minute were paid, the sawyer being paid more than the mate, a situation which lasted until 1971 when it appears that earnings were shared. Also in 1971 a provisional rate of 49 pence per 100 pieces was introduced for feeding the Forresian Saw.

By 1970 the upper size limit had moved on from the original 7' x 7" to include 8' x 8", 9' x 6 " and 10' x 8", truly formidable products to manhandle on and off the bench giving added impetus to the moves to mechanise both crosscutting and splitting.

8.3.1.5 Pendulum Line

During 1970 the intention to develop a more productive, more sophisticated, static sawbench, declared 4 years earlier in 1966, became a reality.

J H B Implements Ltd of Ickburgh were commissioned to build a pendulum crosscut saw with stops to determine length, infeed conveyors and outfeed conveyors. Also in March 1970 Graham Hobbs was appointed Manager in succession to Ian Campbell.

Graham's arrival was timely in that he had both an interest in, an aptitude for, and knowledge and experience of sawmilling. It is not clear whether any start had been made on the pendulum saw before Graham's arrival or whose was the design. Certainly Fred Platt would have been involved through Work Study and of course J H B but I think it equally certain that Graham Hobbs played his full part too. Suffice to say that by December 1970 the pendulum line was up and running. It was intended for the conversion of Long Butts and was not suited to Cambio poles, the intention being to obviate heavy lifting and chainsaw conversion of Long Butts. The other development crucial to its operation was a means of feeding poles onto the infeed deck, a task well suited to the Volvo Front End loader which arrived on the scene in the forest 1968/69. (56) Trials at BCD followed in 1969/70. Peeled and seasoned poles were carried from the seasoning yard and loaded onto the feed deck where a series of parallel endless chains fed the poles onto a treadle operated kicker which transferred the poles singly onto a diabalo roller conveyor. This fed the pole to one of a series of hydraulically operated length stops operated by the sawyer. Once at rest against the selected stop the pendulum crosscut, a 36" circular saw, cut the pole to the selected length. The resulting produce was conveyed on a belt conveyor continuing in the same direction to a sorting area where a number of men sorted and stacked the products into boxes. This second conveyor was an old Parker mobile loading conveyor suitably modified. The gap between the infeed conveyor to the saw and the outfeed conveyor was slightly greater than 0.5 metre allowing woodwool billets of this length to drop onto a rising conveyor which dropped them in a heap outside the building from which they were stacked onto specially constructed pallets for removal to the stockyard.

This was done during breakdowns or any other opportune time, although occasionally work had to stop to clear the heap if it became too big. Larger products were rolled down a series of ramps consisting of 2 poles, the upper ends resting on the conveyor framework. These were cleared to the stockyard usually to close piled stacks using either a Volvo or a Hiab equipped lorry.

Sawdust dropped into a pit below the saw which was cleared weekly. I discovered sometime after my arrival that this pit which was a good 6 ft deep in very sandy soil, had no support at all with every chance of the sides collapsing at any time. The sides and bottom were immediately lined with shuttering to the relief of the man responsible for clearing the sawdust which had to be shovelled out.

Further developments followed in fairly quick succession the first of which, I believe, was to move the Forresian Saw to a site close to the end of the pendulum outfeed conveyor. Recollections are hazy on this but photographs suggest that this may have been the case but it is of little consequence because in February 1971 only about 2 months after completion of the pendulum line the Dankaert Bandsaw was "purchased" by barter from Harvey, a sawmill customer at Wisbech. It had a 45" wheel and 24 ft blade and was installed entirely by Depot staff in line and following on from the sorting area. Infeed to the saw from the end of the belt conveyor was by a dogged chain running in the bottom of a "V" shaped trough, much as on the Forresian Saw. Sawdust was ducted and blown into a trailer positioned outside the building. Initially the splits dropped from an outfeed belt conveyor but later a series of frames carrying roller conveyors was added around which a number of men stood removing the splits and sorting into crates or boxes as they were known. The ramps were retained to permit round prop production by "rolling off" before the Bandsaw. This resulted at times in the Bandsaw being underemployed. The final addition intended to overcome this was a ramp ending in a short level section positioned to allow round props on the ramp to be pulled onto the Bandsaw infeed chain. These logs came from the swing line normally which indicates that this last addition must have been made after March 1976. The building gave the maximum protection possible as dictated by the operations in each section. The infeed/kicker section and the rolling off area had roof and back with a good overhang at the front. The pendulum saw was completely enclosed but the split sorting area could only be roofed.

The buildings were constructed using poles as uprights, half round cut on the Forresian or Bandsaw for stud walls and roof trusses which were made in prefabricated units. Cladding was mixed, either corrugated iron sheet or more commonly Onduline Sheeting a waxed fibre product cheaper than corrugated iron but more susceptible to damage.

Plate 29 Pendulum crosscutting and splitting line 1971, and 1973 Cambio 35 peeler with 1977 Bark Mill shed. Probably taken 1979 or later

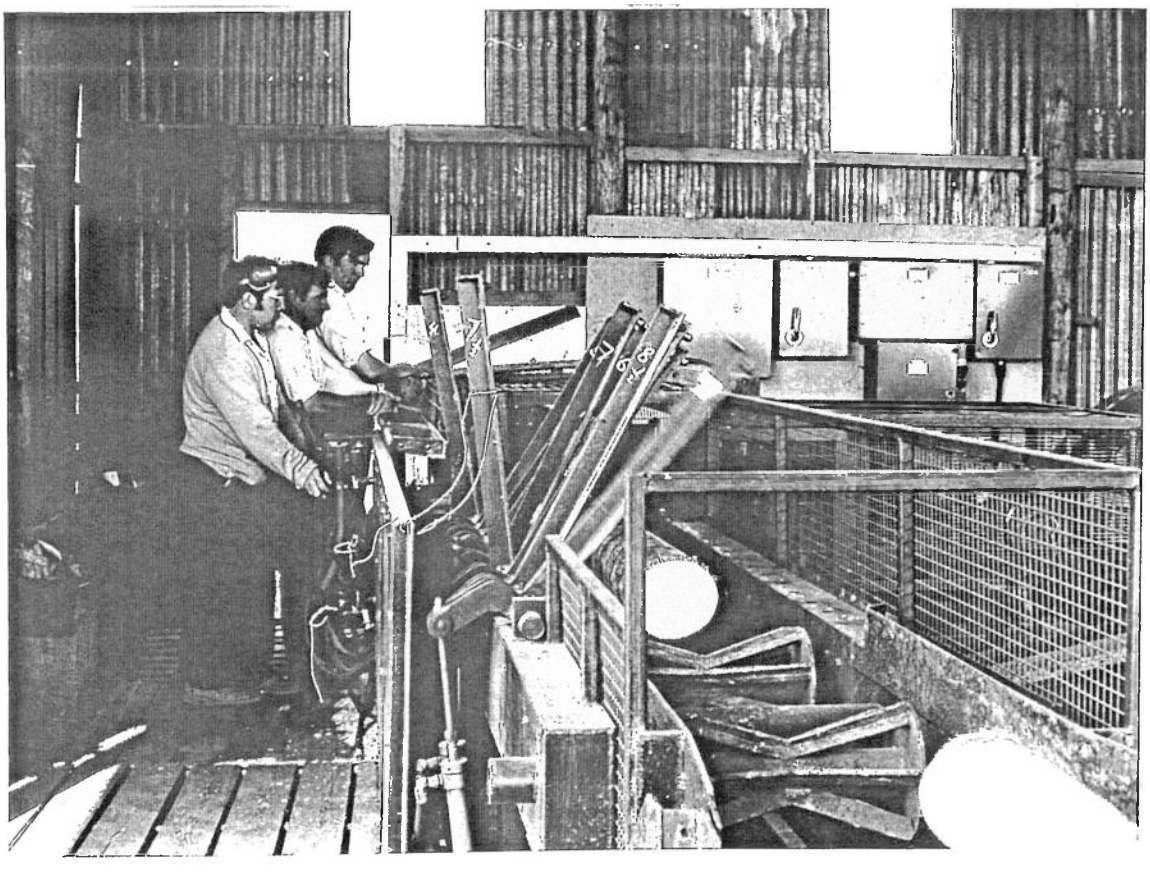


Plate 30 Pendulum crosscut station with hydraulically operated length stops.

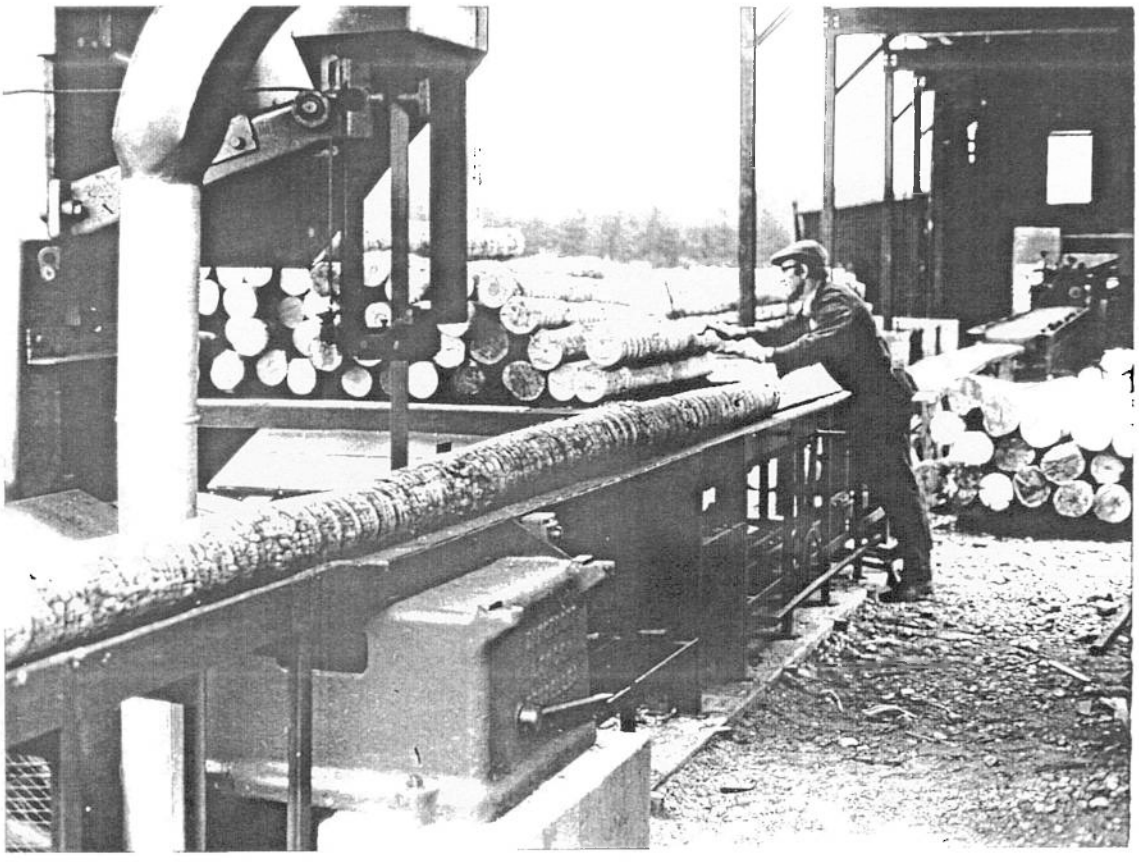


Plate 31. Dankaert bandsaw downline from Pendulum crosscut. Round props rolled of on ramps before the bandsaw with other round material for splitting fed to bandsaw from reserve ramp.

Plate 32. Swingsaw crosscutting line installed 1976.

Some square sawn was used before the arrival of the rack bench in 1973/74 but this was either rough cut on the Bandsaw or obtained through "deals" made with local sawmillers, the currency normally being firewood or poles. Onduline Sheeting was used because Graham could purchase a few sheets now and then when cash allocations allowed and sometimes when they did not, and being cheaper a given number of sheets covered a greater area than corrugated iron.

Design and construction was all "in house" and although around ten years old when dismantled to make way for the new sawmill, the work involved in dismantling it was a measure of the standards of construction achieved.

The line was manned by six or seven men depending on whether round props were rolled off before the Bandsaw or not. One man operated the infeed deck singler and kicker to feed the cutter who operated the stops and saw. Large props were rolled off just beyond the stops and before the Bandsaw requiring one man if necessary. The splitting section required the Bandsaw operator who presented each round prop in the best way to ensure the cut was central ie any bow in a vertical plane. The two splits travelled on to the sorting bay where three men sorted into boxes. Sorting tended to be by length and every effort was made not to include two adjacent top diameter classes in the same length in any days cutting pattern.

Output per hour for crosscutting on the pendulum Saw alone in 1982/83 ranged from 9 to 14 cubic metres as recorded monthly, the average for the year being 10.8 cubic metres. The Bandsaw section ranged from 10.1 to 14.8 cubic metres per hour, averaging 11.8 cubic metres. Standard Times were produced by Work Study in 1977 which provided the basis for piecework payment until the line ceased production in January 1983. (57) It was dismantled to make way for the later stages in the construction of the new sawmill. Most of the machinery and some of the buildings were transferred to Wentwood Depot in South Wales where it was reassembled to continue producing pitwood and fencing until Wentwood like BCD, closed in early 1988.

8.3.1.6 Swing Line

Crosscutting of the smaller diameter Cambio and smallwood poles continued on liner benches until new legislation prohibited the use of push benches for crosscutting around 1975/76. A rocking table as with McConnel mobile benches was acceptable as was a pendulum Saw where the pole was held static and the saw blade moved across. This later principle was the basis for a saw designed and developed locally to take the place of the old liner benches for crosscutting. Graham Hobbs and Michael Aymes, who was Depot fitter at the time, produced a design which met with approval from Mechanical Engineering Branch and they were given the "go ahead" to produce the first saw in conjunction with M I Edwards.

This was successful and approval was given for the production of three saws which were installed in March 1976.

They were treadle operated circular pendulum saws with 30" diameter blades. The saws were mounted in a rigid steel frame pivoted at the top end on a shaft. On depressing a treadle the saw was drawn across the pole through the action of a wire cable arranged through a series of pulleys.

In operating the treadle a weight was also lifted which returned the saw back to rest once pressure on the treadle was released. The saw itself was electrically operated.

Initially the three saws were set up in line running east - west at 25 metre spacing. On the infeed side there was a roller table and on the outfeed side a long wooden bench marked off to indicate the main product lengths from the blade. The earliest feed decks were ramped trestles but on two saws the feed decks were very quickly mechanised. Sections of the abandoned JHB cascade feed deck to the Cambio peeler installed in 1973 were modified to provide chain feed decks. At the same time a low belt conveyor 60 metres long was constructed using a wooden frame to link the two saws with mechanised feed decks and to provide a 30 metre long sorting area. A later addition was two roller table conveyor sections with ramps on either side as an extension to the belt conveyor to allow the largest products to be rolled off rather than lifted. The long belt conveyor was tensioned by hitching a tractor to the frame at the opposite end to the drive motor. Once the tension was on, wedges were driven in between sections of the wooden frame. The wooden frame was eventually replaced after four years continual use by a steel frame constructed by M I Edwards in 1980. This was tensioned by large threaded rods and being rigid the belt ran true and wear was considerably reduced. Boarded ramps were constructed to link the outfeed saw table to the conveyors.

A minimum of seven men were required to operate the line. A cutter and tail man on each saw, two men removing and sorting products into boxes which were lined up on each side of the conveyor with one man working between the conveyor and the boxes on each side. The last man would be on the roller ramps sorting up to four of the largest products.

The chain feed on the infeed decks ended at two rollers positioned in line with the saw bench. The tailman operated the infeed deck chains to feed poles towards him. He then pulled the poles singly onto the rollers on which he then fed the pole butt first to the cutter. Having quickly sized the pole up and decided which length the first cut should be, the cutter depressed the treadle and let the resulting product roll down the boarded ramp onto the conveyor, very closely followed by the next and the next. The products were conveyed on towards the sorting area to be joined by products from the second saw and on finally to the sorting area.

The cutters always worked by eye and eventually became very proficient at judging top diameter but in order to aid sorting the same length in two adjacent or near adjacent diameter sizes were never included in the days cutting pattern together.

The tailman stood to the left of the line of movement of the saw blade and the cutter to the right there being no requirement at any time to stand in front of the saw. The shortest cut from Cambio poles were 525mm x 80mm which demanded great care but they could still be cut without either man standing in front of the saw. Firewood offcuts were thrown direct into a conveniently parked trailer by the cutter.

The whole line was covered by a roof apart from the final roller table sorting ramps but further protection was only possible as an open fronted shed around the two saws. Nevertheless, work continued in all but the very worst of weather. Occasionally, sawdust which was carried into a heap in front of the saw just as it came off the saw, would blow back into the cutters face. Various screens and other devices served to reduce the problem but it was never fully resolved.

Studies were carried out by Work Study fairly quickly after installation providing a basis for piece work rates. In the years that followed increasing volumes of long butts were converted on the swing line and the resulting products paid better than those produced from Cambio poles. Again another indication that lineal measure and feed speed are the critical factors in roundwood processing. This situation tended to influence management decisions as to what pattern of cutting should be adopted ie long butts on both benches or long butts on one bench, Cambio on the other but never Cambio on both. Apart from any other consideration Cambio on both resulted in frequent stoppages even with two extra men assisting with sorting and stacking because smaller diameters meant shorter lengths and a great many more pieces.

The rates were volume based and they assumed a balance between Cambio poles and long butts. Larger diameter products from long butts paid better than the smaller products from Cambio poles and cutting patterns were geared to maintaining this balance rather than the demands of the market, a situation of increasing significance with ever increasing tree size and consequential difficulty in supplying adequate volumes of Cambio poles from the forest. A proposal to pay a 10% addition to the mixed pole rates for Cambio poles and a 10% reduction for long butts was accepted in March 1984. This introduced a lot more flexibility into swing line cutting patterns and the new rates worked very successfully.

From late 1983 smallwood poles were also converted on the swing line at times. In November 1983 a stepped bonus scheme based on pieces per hour was proposed and accepted.

This proposal followed acceptance of similar bonus schemes for converting smallwood on the rustic bench and peeling and pointing stakes in June 1983.

Both the modified swing line rates and the stepped bonus schemes led to improved earnings and output with reduced unit costs.

Further studies of production were carried out and reported in 1980 (59). This was more an analysis of the product mix which resulted from either Cambio poles or long butts to provide information to be used in drawing up the specifications for the new sawmill.

One reason for cutting long butts on the swing line as well as the Pendulum line was that in the larger pitwood sizes the length was predominantly 2 metres or more. Assumed taper for pitwood was 1:120 which meant that only alternate top diameter classes could be cut at the same time. Feeding butt first and cutting a 2400 x 150 it was impossible to cut a 140 to follow but inevitable that if the next length was around 2 metres the top diameter would be 130 or even 120mm. As 60 to 70 per cent of all British Coal requirements were 130, 140, 150, 160 and 180 a permanent and increasing problem existed which could be partially overcome by cutting say 150's on one line and 140's on the other.

The swing line was a highly productive line which averaged 7 cubic metres per saw hour or roughly fourteen cubic metres per hour for the whole line over the five years 1982 to 87. Up to 2000 pieces per hour in 14 separate sizes simultaneously were produced regularly.

In designing and developing initially the saw and finally the whole production line, Graham Hobbs not only achieved vast improvements in working conditions for the Depot workforce but also more than doubled the output per man hour compared with liner benches. Both he and Michael Aymes received an award through the staff suggestion scheme for the design of the saw.

In considering the design for the new sawmill to be built as part of the redevelopment, it was recognised that given the complexity of the product mix required, the level of mechanisation/automation envisaged and the intended level of capital outlay, it would be difficult to better or perhaps even equal the output levels achieved on the swing line. However, the swing line demanded a great deal of physical effort to achieve these levels of output and the line was almost totally exposed to the elements which could be very severe, particularly the wind in winter. In these areas there was considerable scope for improvement. The third swing saw installed in 1976, known as the "Rustic Bench", was used regularly to crosscut smallwood poles into fencing products, retaining the original ramped trestles as a feed deck.

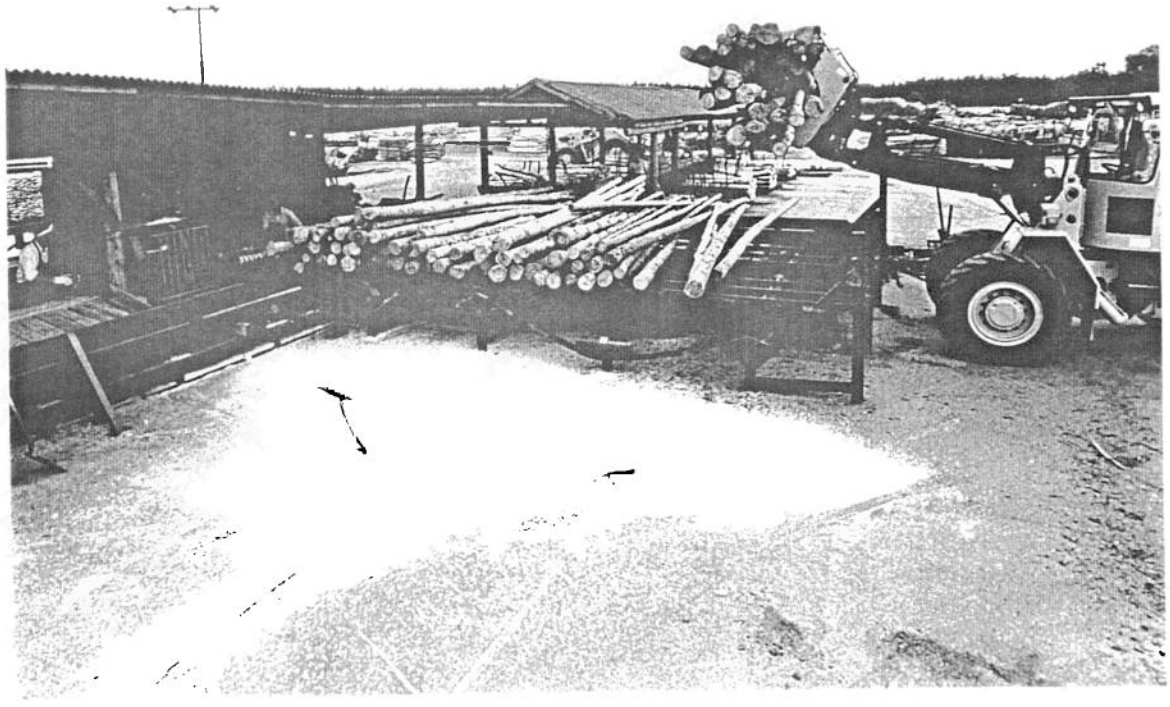


Plate 33. Swingsaw linefeed deck and crosscut station.

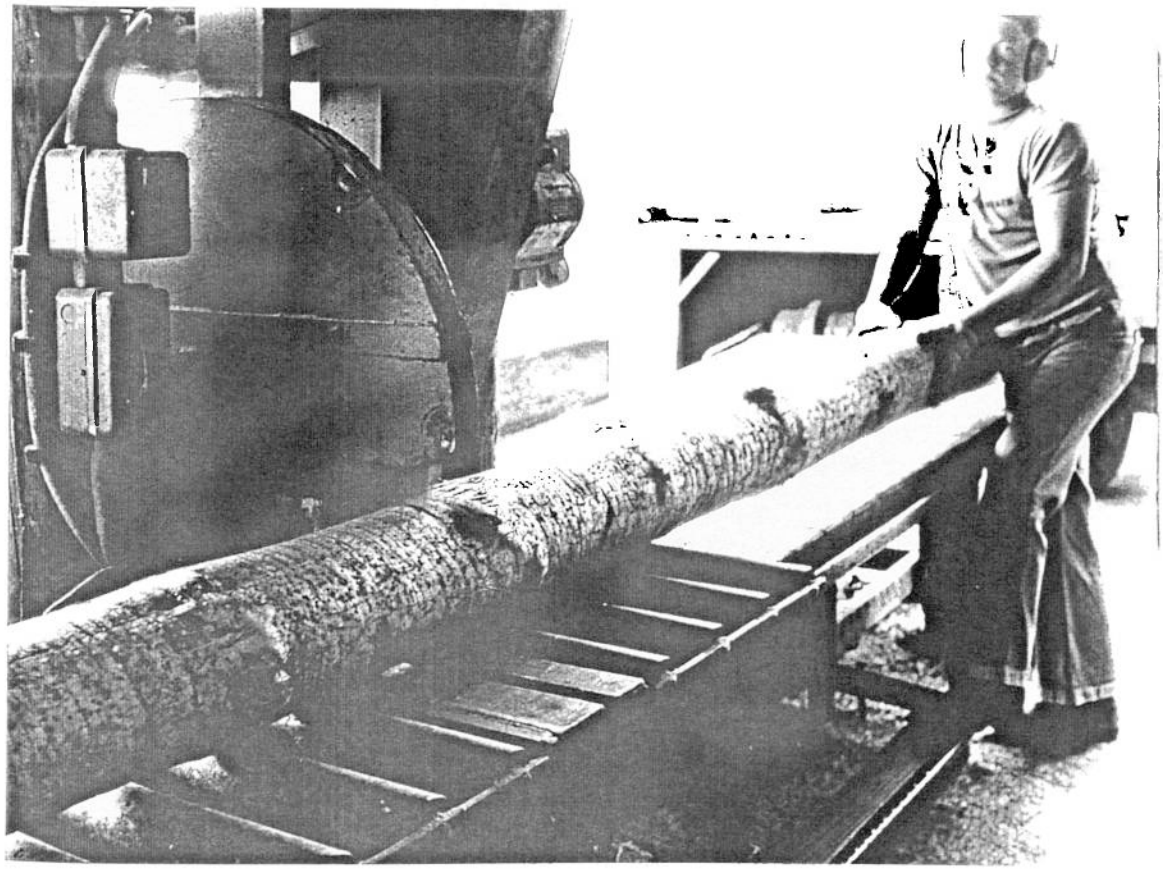


Plate 34 Swingsaw crosscut station showing treadle operated circular saw.

The swing line was retained as the back up to the new sawmill and was used regularly to convert smallwood poles in place of the Rustic Bench as well as Cambio and Long Butts to supplement the new mill in both mix and quantity.

8.3.1.7 The Sawmill

Once all the preliminaries relating to the redevelopment were over and Treasury had authorised the project, investigations started into sawmill design and specification. Visits were made to sawmills in this country and Germany and as with the Peeler, a diagramatic representation of the broad requirement was drawn. The specification was finally agreed and design/quote invitations sent out during September 1980. Replies were required by the first week in January 1981. Construction was to be in the period 1.4.81 to early March 1982.
Responses were received from four firms, M I Edwards, Dankaerts, Torvale Engineering and Adrian Law whose response was by telephone with an "educated estimate". Quotes ranged from £300,000 to £570,000 where the updated budget figure was £261,300.

The contract was finally awarded to M I Edwards after considerable discussion and negotiation around ways and means of reducing the quotes to something approaching the budget figure. Considerable delay occurred before completion late in December 1982, some due to modifications and improvements in the design.

The objective was to construct a sawmill which would combine the functions previously covered separately by the Pendulum/Bandsaw and Swing Saw Line but with a capacity to process 3,000,000 lineal metres in normal working hours (40 hours/week). This being the calculated equivalent to an annual input of 70,000 cubic metres over bark, representing a 40% increase on previous input. The workforce was to remain the same and working conditions were to be significantly improved. The mill layout consisted of three crosscut stations with an option for a fourth. A central split level conveyor carried props to a cross transfer conveyor and on to a sorting line. Props to be split were also conveyed to a cross transfer conveyor and on to a bandsaw before the final sorting line. The whole operation was under cover apart from the infeed decks to the crosscut stations, the waste conveyors, the mechanical sorting bays for heavier products and the sawdust silo, which were all outside the building.

a. Crosscut Stations

The infeed decks, singlers and kicker cams to all 3 crosscut stations were almost identical to those on the peeler except that there was no necessity for plating under the feed deck or waste conveyors as all material to be crosscut was peeled and clean.

Poles were loaded onto the infeed deck by Volvo front end loader to feed butt first to the saw. Singled poles were kicked onto a belt conveyor which carried the pole butt first to a pre-selected stop. A 38" diameter circular crosscut saw contained within a protective cowling operated hydraulically to crosscut the pole from above. The cowling had a clamping device at its base which secured the pole before the saw moved down within the cowling. A pair of spiked diabalo rollers, one positioned at the end of the infeed conveyor just before the saw and the other at the start of the outfeed conveyor just beyond the saw gave added momentum to pole feed. Between these two rollers, set so that a 0.5m woodwool billet would bridge the gap was a hinged flap which when retracted allowed waste offcuts less than 0.5m in length to drop onto a belt conveyor which fed to a rising conveyor positioned through the side of the building from which offcuts dropped into a trailer. A smooth rising belt was later replaced by a ribbed belt to prevent slipping in wet weather. Once crosscut the stop was raised, and the product conveyed by the "fast away" belt, so named because its lineal speed was greater than that of the infeed conveyor to ensure clearance before the next cut. The product was fed to an end plate which activated a sweep. Alongside the fast away conveyor a hinged platform provided a bridge to the top level on the central split level conveyor. Products destined to remain in the round were moved onto this top level automatically by the sweep. If the product was to be split the hinged platform was lifted allowing the product to drop onto the lower level of the central conveyor. There were twenty length stops on each saw ranging from 500mm to 3,000mm the latter being the maximum length possible. Additional lengths within the range could be cut by bolting adjusters onto the stop arms.

The whole operation for each saw was controlled from a seat within an air conditioned control cabin, two being situated in the first cabin and one in the other with an option to install a second.

All the controls were positioned beside the arm rests on the seat, stop and split selection on one side, movement and saw control on the other. The whole cycle could be run manually or on automatic once length had been selected.

Lineal measure processed was recorded by a weighted roller of one metre circumference linked to a meter through a trip device positioned on the infeed side of each saw. It took some considerable time to engineer the performance of this device to anything like an adequate standard and slip in wet weather was always a problem.

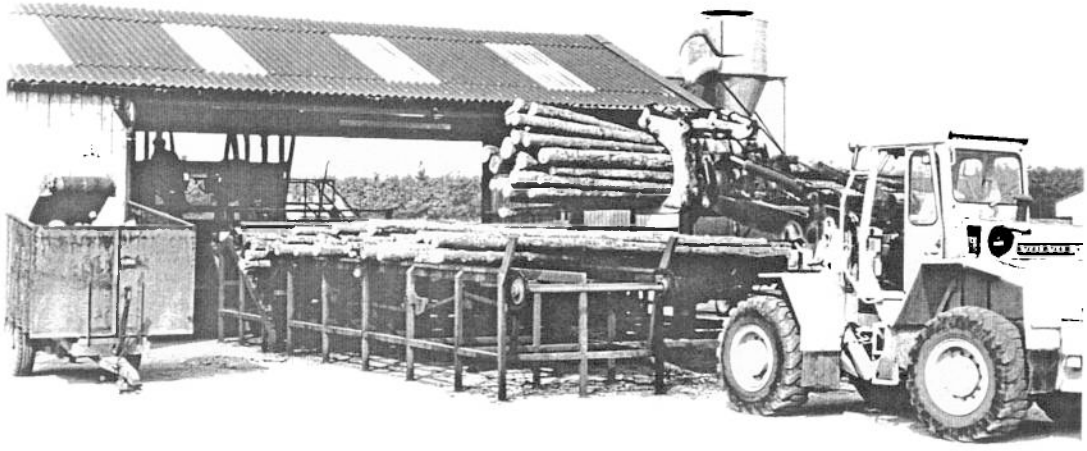


Plate 35. Feed deck to No. 1 crosscut station, new sawmill commission December 1982.

Plate 36. Control cabin No 1 & 2 crosscut stations with stops and circular crosscut saws. Note singling device between infeed deck and sawfeed conveyor

An alternative means of assessing lineal throughput was to calculate length of products tallied which excluded wastewood and required an estimate of the length contained within 0.5m woodwool billets which were not counted individually for payment or sale purposes. This last method was always used for studies made by Work Study and for all recording purposes "in house".

As previously, diameters were determined by visual assessment, a positive policy decision taken right at the outset. The degree of accuracy achieved by this method proved inadequate in relation to the British Standard Institute Quality Assurance Scheme for round mining timber. In an attempt to improve accuracy a board carrying white plastic discs in the full range of 10mm steps based on the mean diameter of each class was displayed above each saw. Each disc was clearly marked with the relevant class. This apart, top diameter assessment remained a matter of visual judgement at the time of cutting as it always had been.

Initially normal plate circular saw blades were used but the reduction in diameter through frequent sharpening every three of four days in use created problems in that eventually the saw had to be discarded as it did not break through at the end of the stroke. Trials with TCT (tungsten carbide tipped) blades confirmed that although initial cost was more as was the cost of sharpening the benefits far outweighed these disadvantages. The interval between sharpening increased from about 4 days to around 6 to 8 weeks. As a result only 6 blades were required, one on, one off, on each saw. The quality of cut was much improved and saw diameter remained the same. The quality of the saw doctoring service was very critical. To ensure adequate service it was necessary to return the blades to the manufacturer having found the local service to be inadequate for these TCT blades. Only 3 men were required in this section of the mill, one at each crosscut station. Normally long butts would be fed to 2 saws and Cambio to the other, this being the mix of diameters normally required, but any combination was possible.

b. Roundwood Sorting

Roundwood products sorted onto the top level of the central conveyor from the first pair of saws were joined further on by products from the third saw. Spiral rollers at the end of the conveyor served to change the direction of travel through 90 onto a very wide ramped conveyor consisting of 3 wide belts which were set to run at a slow speed. This created a moving reservoir carrying the roundwood products to a sorting conveyor positioned across the end of the ramped conveyor.

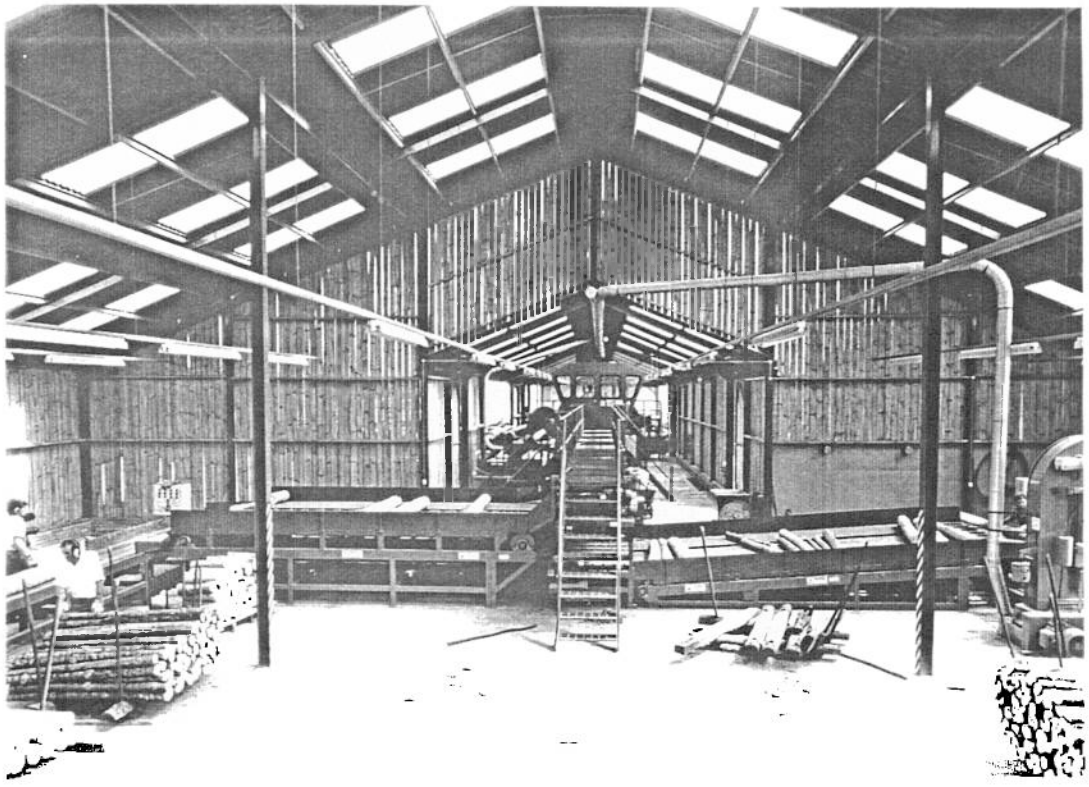


Plate 37 Split level conveyor carrying round props and material to be split separately to cross transfer conveyors to bandsaw for splitting and sorting, and roundwood for sorting.

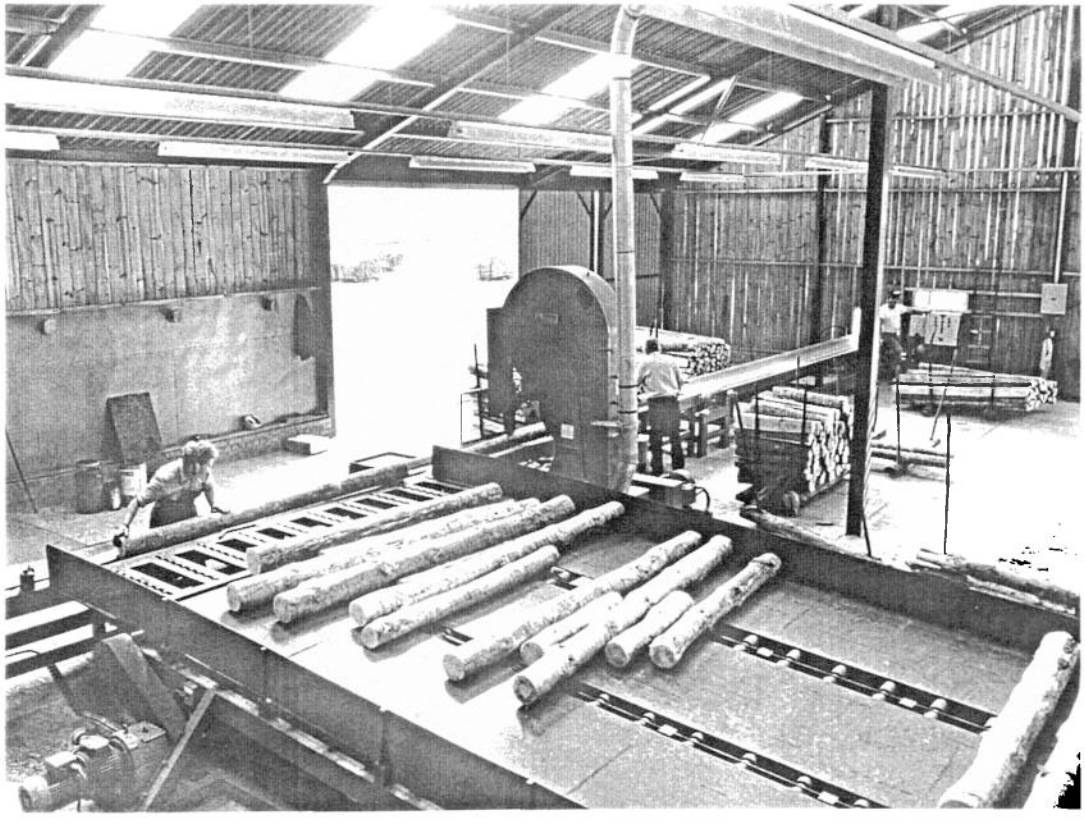


Plate 38 Cross transfer conveyor, splitting bandsaw and sorting bay. Control station at end wall controlled outside sorting bays for larger products.

The top level of the central conveyor, the spiral rollers, the ramped conveyor and the sorting conveyor were all controlled by one man using a control panel situated at the start of sorting conveyor. He also had the facility to vary the speed of the ramped reservoir conveyor and besides exercising control over this conveyor the operator transferred the products from the reservoir onto the sorting conveyor presenting them singly for sorting.

Smaller products were sorted into boxes set up along the whole length on either side of the conveyor leaving a walkway where at least 2 men worked, one on each side.

The conveyor continued through the end of the building to feed larger heavier products onto a covered rising conveyor which levelled at about 2 metres high. A control panel inside the building positioned at a window activated 4 stops which in turn activated 4 sweeps which were used to sort up to 8 products into bins positioned in pairs on either side of the sweep position mill-side of the stops. At ground level visibility for this kicker panel operator was very poor. Eventually the panel was positioned on a tower platform some 3 metres high with a new window inserted into the end of the building which overcame the problem.

At the design stage the split between manual and mechanical sorting was set at 0.04m3 this being considered the maximum volume a man should be expected to lift at normal volume/weight ratio. In practice it was a fairly arbitrary decision which depended on the mix and the number of bays available..

In wet weather it was sometimes necessary to have an extra man outside straightening products in the bins if the product surfaces were very greasy. Once counted, marked and checked for quality, boxes of products inside the building were removed to the stock yard by fork lift truck through double sliding doors in the side and end of the building. Products from the outside bins were conveyed to the stock yard by Volvo loaders using log grapples and later by Gremo forwarders.

c. Splitting and Sorting

Round props to be split having been sorted onto the low level central conveyor from any one of the 3 crosscut saws were conveyed via spiral rollers to a wide ramped reservoir conveyor as on the roundwood line. This fed a dogged feed chain to a Stenner 27ft bandsaw. The resulting splits fed onto a belt conveyor and on through the end of the building to a rising conveyor and 2 pairs of bins arranged exactly as those on the roundwood line.

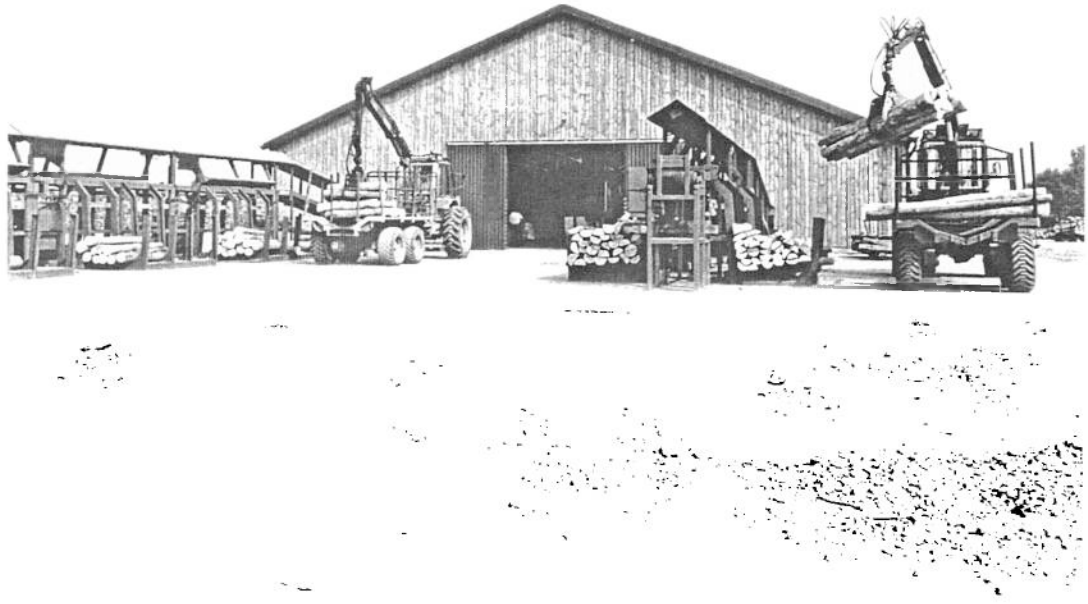


Plate 39. Mechanised sorting bays. Gremo forwarder removing splits to boxes in stockyard.

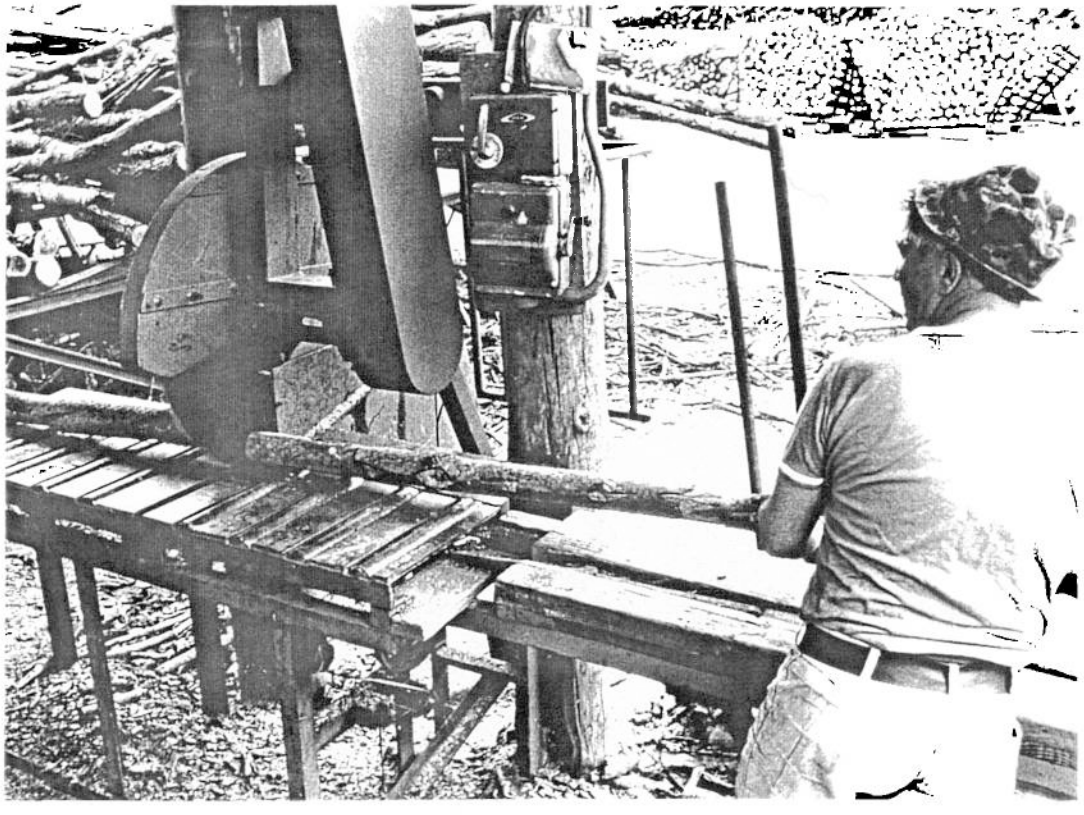


Plate 40. Smallwood Swingsaw converting smallwood poles into fencing and other stakes. Feed ramp not mechanised and constructed from old narrow guage railway line.

Manual and mechanical sorting was split in same way as for the roundwood line and product removal was organised in the same way also.

The decision to provide only 2 pairs of outside bins was based partly on the proportion of splits supplied at the time the mill was designed but mainly on the premise that splits would be half the weight of props and therefore only half as many outside bins would be required. In practice the volume of splits rose until 65% of the volume supplied to British Coal was in splits. Also the presence of the bandsaw reduced the box positions for manual sorting within the mill compared with the roundwood side. The split range of sizes were generally larger and the number of sizes considerable. All these factors combined to result in a situation where split production was limited by the inadequate sorting facilities. When the split proportion was pushed to the limit frequent hold-ups at the sorting stage prevented crosscut stations operating and affected production throughout the mill.

As a result of a case made in February 1986 the crux of which was that 42% of the volume throughput was handled in 18 bins (boxes included) as roundwood, while 58% of the volume as splits was handled through 12 bins, authority was finally given to extend the outside bays from 2 to 4 pairs. The men engaged in manual sorting on both lines suffered from cold feet and very rapid wear on boot soles. The provision of vinyl duckboard strip for both lines resolved the problems; boot life doubled as a result.

d. Sawdust Extraction

Sawdust was ducted from the 3 crosscut saws and the bandsaw to a silo which emptied continuously into high sided trailers parked beneath. The trailers were removed by tractor as necessary and the sawdust tipped, initially in a heap on the bark dump and later in the first bark bay.

The original hope was that customers would leave their trailers under the silo but volumes produced were insufficient to attract this.

e. Power

Basic power was electrical and secondary power hydraulic with power packs allocated to each crosscut station. The stroke of the saw, the stops, the split flap and the sweep at each crosscut station were all hydraulically operated as were the stops and sweeps on the mechanised sorting lines. Feed deck chains, singlers, kicker cams, conveyors and spiral rollers were all electrically driven.

f. Operator Selection and Training

A policy decision had already been made that operators would be found from within existing staff. An aptitude test was designed by local Forestry Commission Education and Training Branch staff to assess skill in judging diameter and length. All staff who were not already judged to be key operators for the peelers and other machines were tested. A single point was awarded for every centimetre of error in length and top diameter separately. The scores were then added and those men with the lowest scores were shortlisted for the key jobs as crosscut saw operators. Considerable mental agility and manual dexterity was required to operate both the crosscut saws and the kicker panels to the best advantage. All the shortlisted men were then trained to operate at both stations. E&T staff conducting the training had already been trained by M I Edwards and had had limited experience in handling controls during the early test run stages. Including the conveyor control panels on each side there were 7 key positions to fill and backup operators were essential for all 7. Assessments made during training and consolidation were used to make the final selection with almost every man selected to operate in at least 2 stations. Those who demonstrated the least aptitude filled the manual sorting stations as sorting was determined mainly by length at that stage.

g. Pay

National agreements stipulated that while training, men would be paid average earnings based on previous earnings over a 6 week period. This meant that men doing the same job were being paid differently because they did different work previously. Also there were up to 15 men involved in feeding, operating, taking away and checking, all of whom were crucial to efficient and effective running. The same applied with the peeler complex and it was therefore decided that as an interim measure we would try to agree a package locally based on enhanced hourly rates which would give due recognition to the degree of skill and effort demanded by the various tasks throughout the Depot. A proposition based on percentage additions to basic pay rates which permitted simple revision in the event of pay rises still maintaining the same differentials, was put to the workforce for consideration and subject to agreement by District and Conservancy. The agreement was to be without prejudice to any proposals resulting from future studies conducted by Work Study Branch.

The proposals which not only affected the sawmill and peeler but rationalised and updated the whole pay structure for the Depot was accepted by the workforce and approved by Len Simpson, Principal District Officer at Thetford. See Appendix 4h.

Studies were conducted by Work Study Branch once training and consolidation was completed and after various minor modifications had been made to improve the general running and operation of the mill. A draft Output Guide was produced but issue was delayed pending agreement to its introduction by the Trade Union Side. (60)

The miners' overtime ban in October 1983 followed by the year long strike March 1984 to March 1985 and all the developments which followed leading up to closure meant that circumstances were never considered to be right for the introduction of the Output Guide as a basis for payment. It was therefore never formally discussed with Trade Union representatives and never discussed with the workforce. (61)

The 1983 package (60) continued as the basis for payment in the sawmill until January 1988. By this time, closure having been announced on 16th November in the previous year, pitwood production was all but complete with little else but woodwool left to produce. All the men had been given notice of redundancy and some men had already been allowed to leave. In an attempt to improve moral and motivation and to ensure completion of the conversion programme I introduced a stepped bonus scheme giving increments of 10 pence per hour to all the men in any way involved with production in the mill, for every increase of 0.5m3 output per mill hour. This was possible only because the cutting pattern was very much simplified and the effort and time of all concerned could be concentrated on the mill operation with no dilution of that effort by the need to service other operations and loading as previously. See Appendix 4K.

The device served its purpose in that the conversion programme was completed on the due date, 26th February 1988, the day the mill ceased to operate and all but a very small skeleton staff left on redundancy or retirement terms.

h. Sawmill Output

All 3 crosscut saws and the bandsaw were fitted with clocks which recorded running hours, load hours and for the crosscuts only, number of cuts.

Measuring devices recorded lineal measure of poles converted and the tally of pieces produced allowed calculation of lineal metres processed through the mill in the round excluding wastewood. (This perpetuated the practice that wastewood should not be paid for in order to minimise its production. A rate was paid in the very early days of liner saw benches). Very detailed daily records were kept from start up and from these and normal daily production records a weekly output analysis was produced throughout the life of the mill.

From these weekly analyses it was possible to monitor very closely the consequences in terms of both lineal and volumetric output which resulted from changes, voluntary or imposed, in the mix of poles processed and/or the cutting pattern.

Fig 28

WEEKLY ANALYSIS SHEET BCD SAWMILL

w/e 22.2.87	Weekly Analysis BCD Sawmill		m^3/hr		m/hr	
Pitwood	482.18m3	69.5%	16.48	21,254m	735	Monday
½m w/w	48.45m3	7.0%	1.68	2,048m	203	
2m w/w	147.66m3	21.3%	5.11	3,820m		
Sawlogs	0.62m3	0.1%	0.02	14m	1	Tuesday
Fencing	15.18m3	2.1%	0.53	1,651m	57	
Total Converted	694.09m3		24.02	28,787m	996	
Round Pitwood	85.28m3	17.7%	2.95	3,777m	131	Wednesday
Split Pitwood	396.90m3	82.3%	14.87	17,477m	655	1hr breakdown
Split only Pitwood						
Split Fencing						Thursday
Split only Fencing						
Up to 1125		7.1%		2,048m		
1200 upwards	92.9%		26,739m			Friday
Recorded Measure						
Diff. Rec. and Calc						
Average hrs x cut run						28.9 hrs
Bandsaw Run						26.7 hrs
Total Thru' Bandsaw	396.90m3		14.87	17,477m	655	

Over the five years that the sawmill was in production 1983 to 1988, outputs per clocked running hour were:

Fig 29

SAWMILL OUTPUTS M3 PER CLOCKED RUNNING HOUR 1983 TO 1988

		Vol m3 Excluding Wastewood				
		1983-84	1984-85	1985-86	1986-87	1987-88
A	Single Crosscut	6.3	6.3	7.9	7.8	7.6
B	3 Crosscuts	18.9	18.9	22.7	23.4	22.8
C	Roundwood Sort	9.0	10.0	12.2	12.1	14.3
D	Split & Sort	8.9	8.0	12.8	11.4	8.0
C + D		17.9	18.0	25.0	23.5	22.3

Notes

1. The figures shown are averages calculated from total clocked running hours and total volume booked for each operation over the whole year.

2. B = 3 X A shown as theoretical total output only.

3. C + D is probably a better indication of total mill output.

4. Running hours for C were not strictly clock based but the same hours were booked as for longest running saw.

Comparisons were made between actuals and the original contract specifications and with outputs indicated by the Work Study Output Guide. (62)

All investigations indicated that as with the Peeler, lineal throughput was by far the most critical factor. The balance between splits and roundwood products was almost equally critical and almost no opportunity arose to work with either the ideal input in poles or the ideal cutting pattern and product mix. The relationship between lineal and volumetric output was complicated by the varying proportions of Cambio poles and Long Butts processed and this could be determined by supply from the forest as well as demand by customers. The sawmill worked well and even though it fell short of the design performance required by the contract specification, all contractual commitments were met. The knowledge and experience gained in operating the mill would have been extremely useful at the design stage and as usual some were critical in hindsight.

The main reasons for the shortfall were an underestimate of the complexities involved, over simplification of the relationships between lineal and volumetric throughput and developments and changes in customer requirements.

Current knowledge at the time the mill was conceived was inadequate to avoid the first two and a crystal ball was required to foresee the latter.

8.4 Stake Production

Once the creosote plant at Santon Downham was established in 1947 and throughout its existence until 1970, Depot stake production was confined to unpeeled unpointed blanks cut to length for further processing at the creosote plant. Unpeeled stakes under 2 inches top diameter were sold direct as harvest poles and were produced in quite large quantities throughout this period. With the closure of the creosote plant in 1970 stake production moved to the Depot.

8.4.1 Crosscutting

From 1970 to 1976 all stakes were produced on liner saw benches from the tops of Cambio poles, smallwood poles and long tops.

From March 1976 the swing line was used for Cambio poles and the rustic bench for smallwood and long tops. From early 1983 some stake lengths were cut in the new sawmill from Cambio poles and smallwood poles were converted on either the swing line or the rustic bench.

8.4.2 Peeling

Stake lengths produced from Cambio poles were already peeled.

From 1970 to 1979 stakes were peeled on the Coles Hurricane peeler of which there were two, one inherited from the creosote plant, the other purchased from Pickering Sawmills in August 1974. These peelers had a floating cutter head and when new I imagine their performance was good. I came to know them both in 1979 when after a great many years' service they were long past their best and it was proving difficult to maintain an adequate standard of peeling.

In August 1980 a Valon Kone VK 10 peeler was purchased and installed in place of the Coles peelers.

The choice of peeler resulted from a series of short trials conducted by Work Study into the relative merits of two peelers, the Italian Munders and the Finish VK 10 both of which were also compared with known data for the Cundey and Coles peelers. (63)

The VK continued in use until closure but some difficulties were experienced in maintaining a high standard of peeling particularly on small poles and dry poles. The profile of the cutters when sharpened was very critical in relation to different diameters, degree of dryness and species. A fan was used to clear bark and blow it into a high sided covered trailer. Despite a number of modifications this system never did become wholly effective, it being necessary to agitate the accumulated bark at the base of the peeler to clear it through the fan at fairly frequent intervals. A number of advisory visits from Valon Kone representatives never did fully solve all the problems experienced.

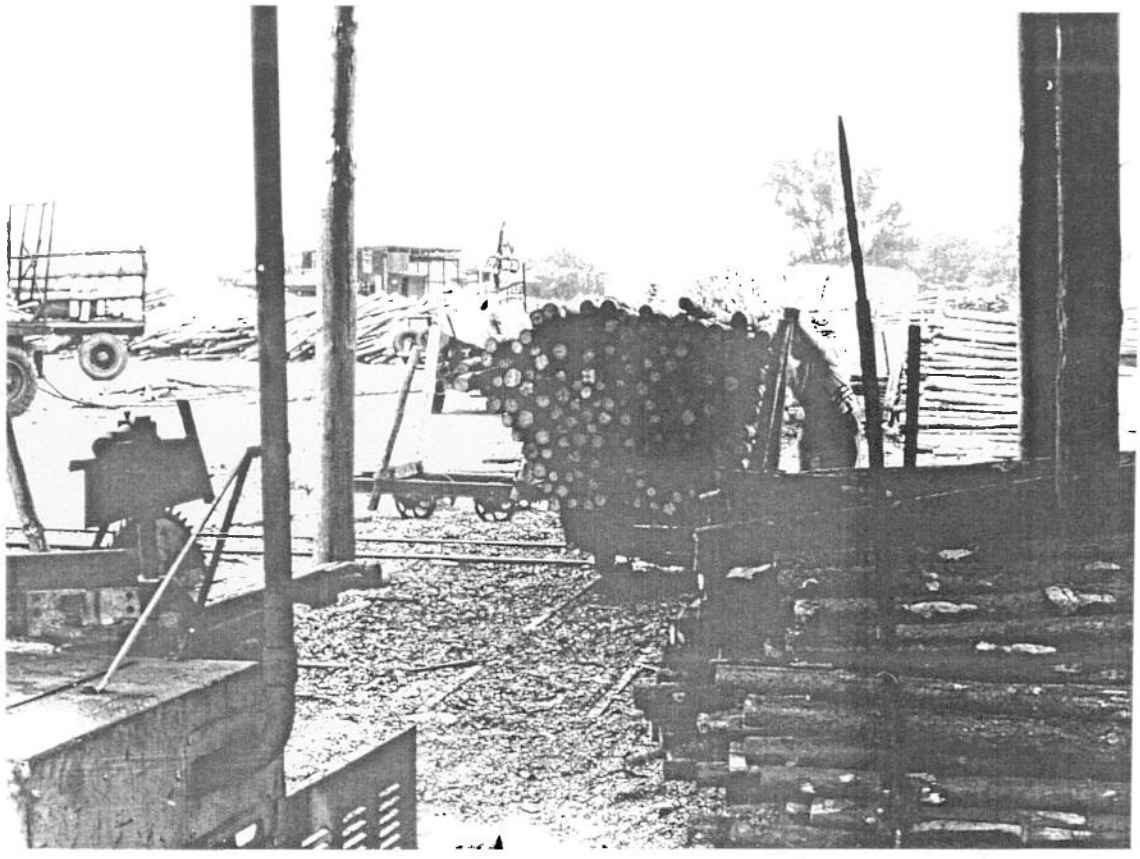


Plate 41. Stake lengths produced at the smallwood swingsaw had to be manhandled along Decaville track on bogies to a liner bench for pointing via a manual turntable.

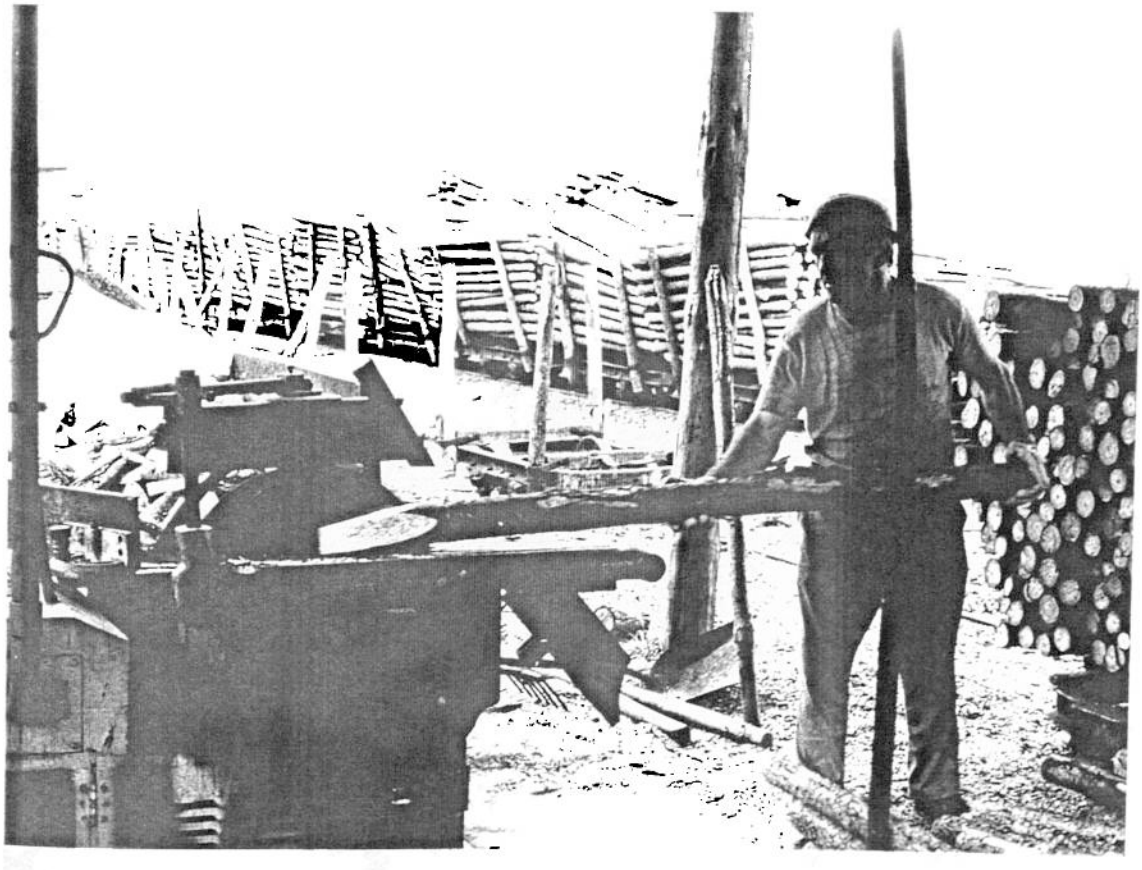


Plate 42. Pointing stakes on a Liner saw bench.

8.4.3 Pointing

Liner benches were used for pointing stakes throughout all the years of the Depot's existence. Some men became very skilled and could achieve first class points and high outputs but being a lighter job than most it tended to be a light duties job for older men or those with some temporary disability.

Around 1975/76 when crosscutting became illegal on a liner bench it was felt that pointing may well become prohibited although still permitted at that time. Others were obviously of the same mind because a number of stake pointing machines began to appear on the scene, almost universally based on the pencil point principle. However, one, the Hy-Point, a hydraulic pointer which produced a traditional four sided point by paring or slicing, looked more promising.

Stake customers preferred the four sided point as this reduced the tendency for the stake to twist in the ground and possibly made it easier to drive.

In February 1982 BCD took delivery of a Hy-Point complete with a mobile power pack which was powered by electricity using a special long lead, the intention being to take the pointer to the stakes working from supply sockets in any of the swing saw sheds, the rustic shed or the VK 10 shed.

This machine required less skill to operate than a liner bench, it was quieter, safer and required less effort and appeared to be a likely successor to the liner should it no longer be permitted at some time in the future.

Work Study conducted a review with trials of Stake Pointing Machinery in 1983. (64)They favoured the Hy-point but the outcome was inconclusive when comparing a good man on a liner bench with the Hy-point, for output and point quality. One disadvantage with the Hy-Point was that points tended to break out where a knot whorl occurred close to the point end. In practice both liner and Hy-Point were used some men preferring one or the other. Rates paid were the same for both and generally speaking output and overall quality was better from the liner bench.

8.4.4 Fencing Line

At some time during the mid seventies, probably in 1976 the recently installed swing saw known as the rustic bench was linked by narrow gauge Decaville railway track to the peeling and pointing shed. Empty bogies were collected just above a set of points leading onto a single track to the rustic bench. One empty bogie was brought down adjacent to the rustic bench and filled with stake lengths straight from crosscutting. Once full the bogie was pushed over the points onto the up line and a second empty bogie positioned to restart the cycle. The full bogies would gradually be pushed up towards the peeling and pointing shed where the blanks would be pointed and sorted by diameter into boxes and then peeled on the Coles peeler. There were two turntables at the peeler end of the track which allowed the bogies to be transferred onto the down track for eventual return to the rustic bench. This system is well described in Mark Howarth's Work Study Project Report. (65)This was produced as a supplement to Work Study Phase III Redevelopment Report which did not cover stake production.

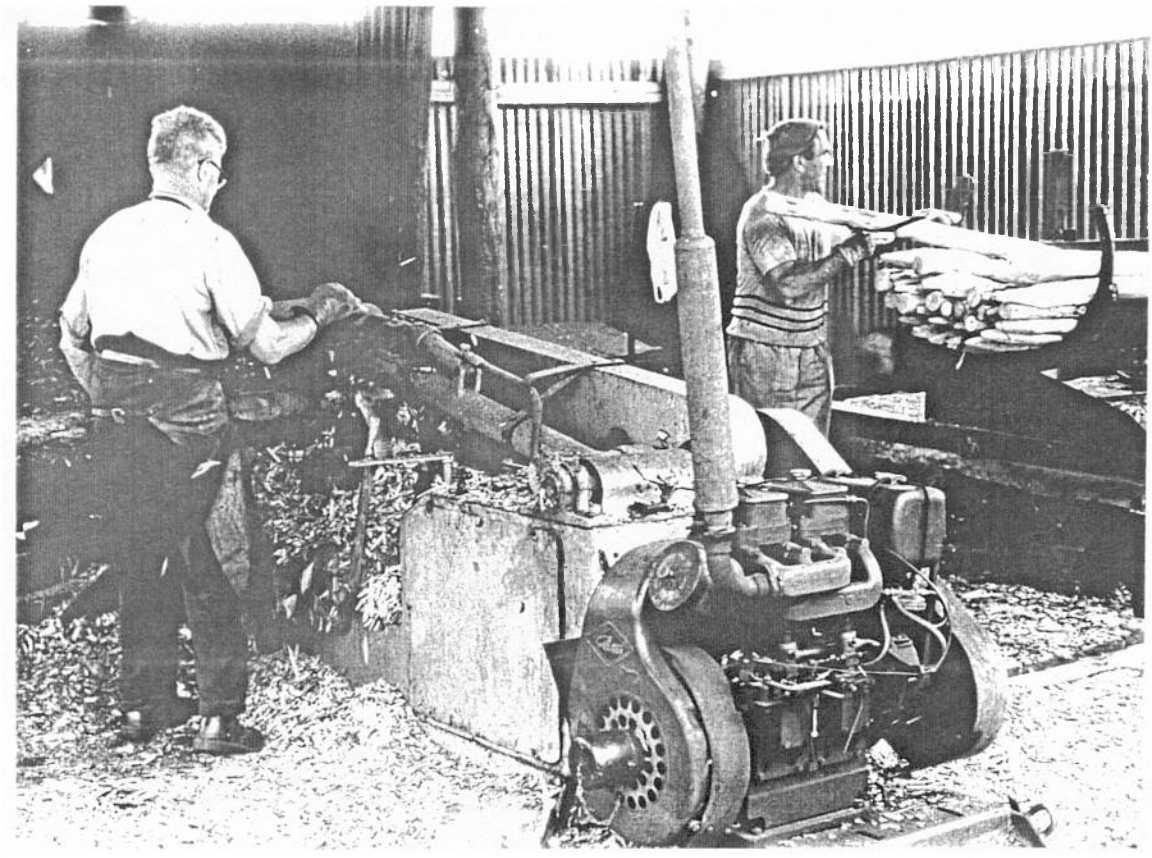


Plate 43 Peeling pointed stakes on Coles Hurricane peeler and stacking into a bundling cradle for strapping

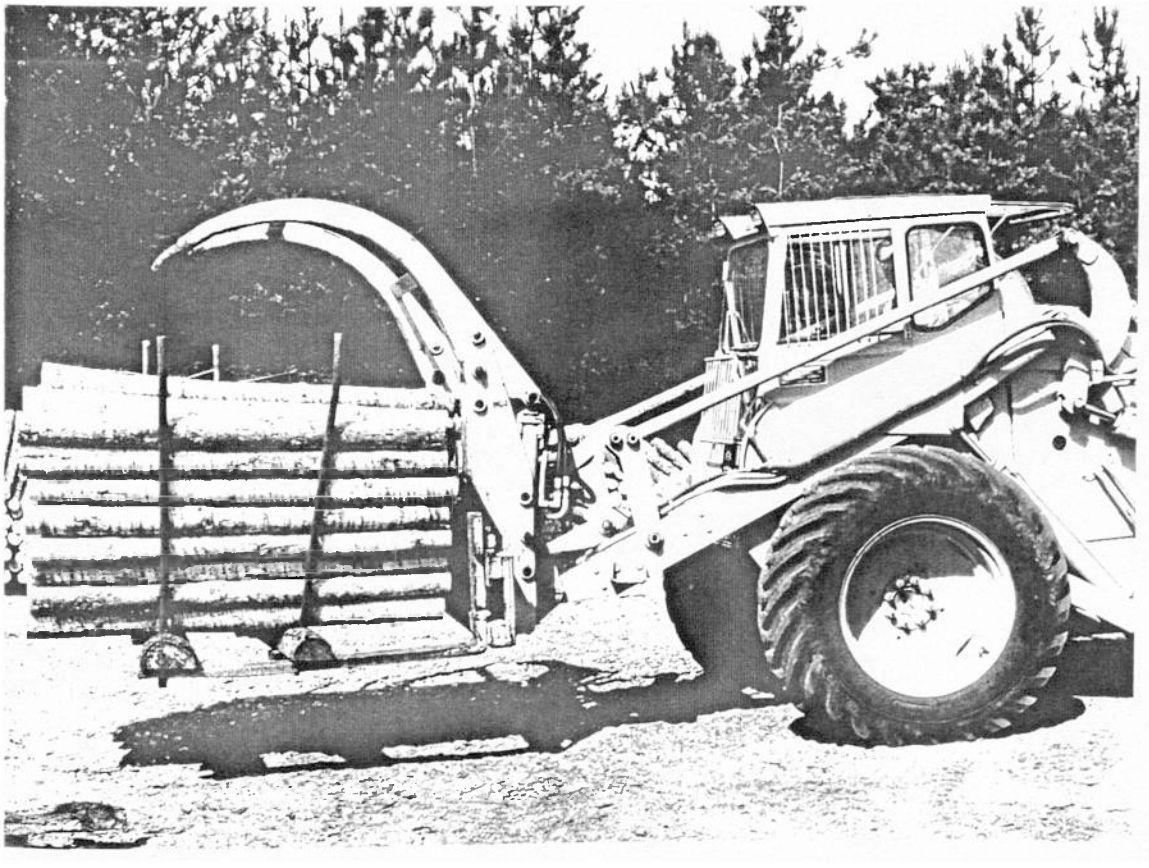


Plate 44 B.M. Volvo front end loader with fork attachment handling a box pallet.

Pointing was done on an electrically powered liner bench, the power supply almost certainly having been installed in 1975/76 at the same time as the installation of the swing saws and the adjacent rack bench and Saga band saw.

As already mentioned, the VK 10 was purchased on the recommendation of the Work Study report and at the time with the redevelopment under way and the future of the swing line in question, it was decided to install it temporarily on sleeper bearers within the existing stake line. The only necessary change being to peel blanks and sort with pointing as the final stage as the VK 10 was known to damage points.

The system continued in use with no further development right up to closure although when the swing line was used to crosscut smallwood, stakes were placed in boxes and taken to the VK 10 by fork lift and the railway track and bogies were no longer used.

An article published in a narrow gauge railway enthusiasts magazine in 1983 describes narrow gauge railways used by the Canadian Army Timber Corps in the vicinity of Santon Downham during the 1914-18 war. Apparently they were used to link a number of sawmills established in the area. As at least some of the Depot track and rolling stock was inherited from the creosote plant I suppose it is just possible that some of it originated as far back as the first World War. Local residents, John Deacon in particular, can remember narrow gauge track and bogies being used by Timber Corps girls working for TPD on the Depot site during the 1939-45 war.

Whatever the true origin at least one railway enthusiast arrived at the Depot to photograph the track, points, turntables and rolling stock!

8.4.5 Payment

Up to 1976 rates for crosscutting stakes were included within standard time schedules as they were after that date for the swing line and the new sawmill.

Crosscutting smallwood poles only, peeling and pointing were very much less physically demanding than working on liner benches with Cambio and Long Butts, the Pendulum line or the Swing line. For this reason these operations were normally manned by elderly men nearing retirement, men requiring light duties temporarily or, much less frequently, to introduce new recruits to Depot working. In 1979 only two relatively low enhanced hourly rates were paid according to which of two relatively low fixed outputs were achieved. This practice was agreed between management and the workforce and it worked well in the sense that it catered for the less able among the workforce.

During the next few years many of these men were permitted to retire through the medical or standard Job Release Scheme.

In June 1983 stepped bonus rates were proposed, accepted, approved by District and introduced. See Appendix 4h. The base rate remained the lowest of the two enhanced hourly rates paid previously. Increments of 100 pieces on the basic output figure per day earned a bonus of 10 pence per hour over the working day.

There were seven increments which served to almost double output at the top end but the top hourly rate remained below that paid on the main production lines, this to maintain an incentive to encourage men to want to move onto mainline production tasks.

These bonus rates were very successful. Less able men normally employed on these operations improved their performance but seldom if ever achieved the top rates. Exceptionally, at times of breakdown, main line operators were moved onto the fencing line and they usually achieved around the maximum. Generally, outputs improved considerably, earnings improved and unit costs were significantly reduced.

8.5 Handyman - Rack Bench

In the early seventies Graham Hobbs was busy erecting buildings which required considerable quantities of square sawn or at the very least split timber. All the timber used for boxes and woodwool pallets had to be cut on the Foressian saw or bought in. The rack bench, "purchased" for a load of round timber from T&K Contractors, a small sawmill in Brandon, provided the means of milling all this material.

It was a very old circular rack bench the blade being 42 inches in diameter with inserted teeth. The rack table was made of wood with a toothed metal strip fixed along the underside. The table rested on wooden rollers mounted in a steel frame and a hand cranked cog engaged in the toothed metal strip to provide the feed mechanism. The bench was manufactured in Carlisle by the company which became Kirkbride Engineering, a fact which became known when they visited the Depot with a view to tendering for the new sawmill contract. For almost ten years the saw was belt driven from a stationary tractor. Initially the bench was installed in the open but by 1975/76 a mill shed and slatsided timber store of the standard Depot design had been erected over the bench and the small Saga Bandsaw which had been purchased in 1971.

General building work, maintenance, box and pallet construction all amounted to a considerable programme of work which was covered by the Depot workforce some of whom, led by Graham Hobbs, had an aptitude for this type of work.

In 1975 a handyman was recruited from within the District to undertake this and other work which was planned. At one stage it was intended that picnic tables would be manufactured at Brandon but apart from one prototype this never did materialise.

Shortly after my arrival in 1975 I embarked on a campaign to convert the saw to electricity on the grounds of greater safety and accuracy in cutting. It took some time but eventually approval was given and the work carried out by M I Edwards, E&T Branch during a course recommended that dogs be manufactured and fitted to secure logs onto the carriage and this was also done.

Although by no means fully occupied the saw was used to produce square sawn timber for a multitude of uses throughout the Forest District. Apart from internal items for the Depot many items for District use were produced. Much of the staging still in use in the polythene tunnels used for plant production at Santon Downham was sawn on the rack bench. Timber for bat boxes, stakes for tree shelters (Tuley tubes) for both Conservancy and Research use were two other regular requirements.

In addition to rack bench and maintenance work the handyman's duties also included the preparation of retail orders frequently using a chainsaw on species other than Pine, usually Douglas fir and Larch, which was supplied unpeeled. Retail sales more than trebled over the 8 years, 1980 to 1987.

Increasing interest in play furniture, adventure playgrounds, assault courses and fitness trails produced opportunities for increased sales but the requirements were, more often than not, for non standard lengths not provided for by length stops on any of the mechanised lines. These products commanded high prices which more than covered the extra costs involved in their production.

The use of species other than pine in this way provided an outlet for the small volume produced throughout the District particularly in the smaller diameter range. Neither Larch or Douglas fir were acceptable as Woodwool and Depot bark was sold as pure pine both factors barring these species from the main line processes.

Completion of the redevelopment made little difference to the handyman's workload. Specific areas were designated as Woodwool stock yards doing away with the necessity to re-lay rails to keep the stocks off the ground. Silt-traps and gully pots in the drainage system were kept clean under contract and repair and maintenance to the new buildings became the responsibility of the Estates Section based at Santon Downham.

All the other tasks, the manufacture of boxes and Woodwool pallets, preparation of retail orders, milling of special internal FC orders and pitwood load bearers and the additional task of preparing fuelwood for the various wood fired boilers, kept the handyman fully occupied.

There were only 3 handymen, Joe Seichter, Colin Hunt and finally Jim Cator over the period 1975 to 1988. The importance of their role in the general smooth running of the Depot was recognised in that the handyman was allocated an enhanced hourly bonus rate within the agreed schedule.

8.6 Handling

At every stage of its development handling and movement of poles and products either from the point of production to the loading point or between processes was always a key operation. The method used evolved and developed as methods of processing changed and more sophisticated handling machines became available.

8.6.1 Tractors and Trailers

Until the arrival of lorries equipped with Hiab grapples in the early sixties, tractor and trailer or lorry was the only means available to move products from production point to loading point. All material had to be moved by hand from stack to trailer to load whether it be rail wagon at Brandon Station or lorry. As already mentioned George Backhouse wrote in 1956 that loading accounted for one third of all man hours in the Depot. From very early on there were at least 6 Fordson Tractors and a fleet of trailers some of which were probably still in use when the Depot closed. The move from rail to road for pitwood delivery which was initially prompted by increasing rail freight charges had already started in 1956. The Beeching Report published in March 1963 marked the beginning of the end of rail freight for pitwood and with it the need to move vast quantities of pitwood from the Depot to the station. It could be loaded direct from point of production onto lorries by crane.

Tractors with trailers continued in use right up to closure, for wastewood, sawdust, bark and general rubbish. High sided trailers were used generally while those into which bark and sawdust was blown were high sided box trailers with a covered top. Although the number of tractors reduced to a minimum of 3 at the time of closure, one to handle 0.5 metre Woodwool, one to handle bark, sawdust and wastewood, and the third fitted with Cameron Gardner forks for use by the handyman, there were still well over twenty trailers of various shapes, design and size in continuous use. This was a matter for very regular review between Depot Manager and Conservancy Mechanical Engineer, who always found it difficult to accept that quite so many trailers were essential!!

8.6.2 Lorries

Both FC lorries and hired lorries were used to supplement the tractor fleet for moving pitwood from the Depot to the station. Again they had to be loaded and off loaded by hand.

8.6.3 Lorries - Hiab Grapple

From the mid sixties when, due to the change from rail to road haulage for pitwood, the crane loaded direct onto lorries in the yard at the production point, handling must have been greatly reduced and what there was could be covered by one or possibly 2 lorries equipped with a Hiab grapple.

The installation of the Pendulum and Bandsaw line in 1970/71 greatly increased the need for handling because it was static. The poles had to be transported from the peeled pole stock yard and loaded onto the infeed deck. Products had to be taken from the outfeed end of the line and transported to the stock yard. In addition the reserve ramp feeding the Bandsaw had to be kept well stocked. The Hiab lorry covered this operation and sometimes removed the larger roundwood products from the roll off ramps. By 1979 only one lorry was based at the Depot but it was common practice to borrow a lorry from one or other of the beats should the need arise.

Once the new sawmill came into use in December 1982, use for the lorry was considerably reduced and even where it could be used it was no longer ideal due to size and lack of manoeuvrability. In addition the lorry was old and due for renewal. Not only would a new vehicle from the new generation of Hiab lorries have been even less suitable but the capital cost would have involved a totally unacceptable hourly charge. The lorry was finally released for disposal as a result of the arrival of a Gremo forwarder in 1982 followed by a second in 1983.

The infrequent occasions where a lorry was essential, delivery of stocks for treatment to Chase Fencing for instance, were readily covered by using one of the beat lorries, although this became increasingly difficult as the beat lorry fleet reduced from 10 to 3 by 1986.

8.6.4 Front End Loaders - Volvo, Bray, JCB

During 1968 and 1969 Work Study Branch conducted extensive trials with the Volvo LM640 and LM841 and made comparisons with the Hough Payloader series of machines. The trials took place at Thetford with hired machines and were covered by a Work Study Report.(66)

No mention is made in this report of any trials at BCD which is not altogether surprising because it was not until the Pendulum line was installed and running in December 1970 that there was any application for such a machine. The first LM640 was purchased for use in the forest in January 1970 and the first LM841 in May 1972. I think it likely that the first Volvo used at BCD to feed the Pendulum line was hired from the company called Hungrey Hall. It is not clear when the first Volvo was purchased for the Depot but its versatility through the many attachments available, its stability and reliability, made it the ideal machine for the many pole and product handling operations which were to develop over the next few years.
Using various attachments including log grapple, extended forks, pulp grapple, clamshell grapple with rotator, bucket and dozer blade, it was capable of covering all the handling operations and many, though not all, of the loading required.

In the context of the Pendulum line it was used to transport poles from the peeled pole stock yard and to load them onto the infeed deck using a log grapple which could also be used to remove large round props and 2 metre Woodwool billets from the roll off ramps. Boxes (crates or pallets) could be moved using the forks and the grapples could be used to remove accumulated rubbish as was the dozer blade. The Volvo was so well suited to its role at BCD that its arrival in Thetford must, to some extent, have prompted and given direction to thoughts of mechanisation at BCD.

The Pendulum line in 1970/71, the Mobile Cambio going static in 1971/72, the second Cambio in 1973, the swing line and rustic bench in 1976 and all the handling to and from the new peeler complex and sawmill early in the eighties, all were designed around the use of the Volvo loader with its various attachments.

During the period December 1978 to April 1979 Work Study Branch carried out trials both in the forest and at BCD comparing the rigid framed Volvo LM841, already well tried and currently in use, with the new frame steered Volvo 4300 and the frame steered Bray 358TL.(67)

Considerable modification to the Bray was essential before it was capable of performing the tasks required. It was noisier, less stable, slower in operation and in changing attachments. Its only redeeming feature was a price advantage of £1500 which was considered by Work Study Branch to be of little significance compared with all the disadvantages. I had not long arrived at the Depot and it seemed to me that pressure to accept the Bray was considerable in spite of the Work Study recommendation. The Bray remained on hire working at the Depot for an extended period. Availability did not compare with Volvo and the added experience with the machine did nothing to improve its reputation. Fortunately, it was finally decided to follow Work Study recommendations and the Volvo 4300 was purchased from then on for both forest and BCD where eventually 3 were in use.

Plate 45. Bonser fork lift truck handling boxed stakes.

Plate 46 BM. Volvo with clamshell grapple stacking peeled billets

During late 1984 early 1985 trials were carried out again by Work Study using the JCB 420HL front end loader.(68) This trial resulted partly from approaches made by JCB who were wanting to break into the forest industry with what was basically a front loading shovel used in Civil engineering. Also the time for replacement of the fourth Depot Volvo was approaching and the price advantage with the JCB appeared to be considerable. An improved cab was fitted before delivery and a number of modifications, particularly to the hydraulics, were made.

As a result of the trial, and once modifications had brought the machine up to a standard of performance which compared with the Volvo, the machine was purchased. It continued to work in the Depot until closure. There were considerable reservations after trials in the forest but the same operator was given the machine to replace an ageing Volvo when the Depot closed. This gave rise to a similar reaction but 2 years later in 1989 he is still using the machine, as far as I know without complaint, having just returned from 2 years operating in Windblow in Suffolk. Roads Branch now use JCB machines and another is used for raking destumped areas in Thetford. No formal studies were ever carried out by Work Study into the many operations covered by front end loaders and from their first use in 1970/71 operators were paid and enhanced hourly rate. The complications resulting from each operator being involved in a number of production operations as well as loading every day prevented participation in piecework or bonus schemes until the much simplified working of the last 2 months when they were included in the sawmill bonus scheme devised specifically for that situation.

8.6.5 Forklift Truck

From 1971 when the Pendulum line was set up, production came increasingly from static operations, necessitating the removal of products from the outfeed end of the flow line to a stock yard. For many years the BCD "box" (crate or pallet) had been in use and various fork attachments were used to move them around the yard. A fork attachment for the Volvos was manufactured locally as was a fork attachment which fitted onto the three point linkage on a tractor. This last was used to move specially constructed pallets containing a double stack of 0.5m Woodwool billets from the production line to the stock yard.

In 1972 it was suggested that Cameron Gardner of Basingstoke should be invited to demonstrate their lifting equipment at the Depot and, presumably as a result, sometime after that, the Cameron Gardner forklift attachment designed to operate behind a tractor was purchased. This remained the only true forklift until October 1978 when a Bonser forklift truck was purchased. This machine had small wheels and low ground clearance which was not ideal for the Depot where until the redevelopment very few areas were surfaced. Damage to the suspension was a regular occurrence. In the winter ruts would form in front of box positions and it was quite common for the operator to find the forklift marooned on the belly with all the wheels clear of the ground. The other problem was that it suffered frequent punctures. These two problems apart the Bonser Forklift fitted with extensions to the forks, performed extremely well. It was regularly used for 8 hours a day, week in week out throughout its life at the Depot from 1978 to 1986 and the going could be extremely rough at times in the winter even after the redevelopment.
Again no studies were carried out on the forklift and, as with the Volvo drivers, an enhanced hourly rate was paid throughout apart from the final 2 months when the operator shared in the sawmill bonus.

8.6.6 Gremo Forwarders

Shortly before completion of the new sawmill in December 1982 when the Depot Hiab lorry was known to be almost beyond the end of its useful life, a Gremo forwarder was put up for offer. A number of incidents where the Gremo had overturned had led to doubts about their stability and limitations on their use had resulted.

The machine, although already well used, appeared to be a possibility as a replacement for the lorry. Once tried it proved to be well suited to the job, particularly once the new sawmill was in use. It proved ideal in capacity, manoeuvrability, visibility and speed for emptying the outside lines. A single product from one line was loaded, taken to the stock yard and, in the case of pitwood, placed in a box set up by the Gremo drivers.
Two metre Woodwool billets were stacked close piled. Any 2 metre billets handled by the Volvos using log grapples had to be placed on the ground adjacent to the stack to be placed onto the stack by Gremo later. A second Gremo became available later and was added to the Depot fleet.

8.6.7 JCB Loadall

The Gremo forwarders were already well used when they came to the Depot and between them availability was not good. Each breakdown prompted the question "Should the repair be done?" Spares became difficult to come by. In considering replacement, forwarders were out of the question. Because of their age and the limitations placed on their use in the forest a favourable hourly charge was set for use in the Depot. New forwarders, which would be far more sophisticated than was needed for the job to be done, would be charged realistically at a rate well beyond that which could be entertained for the Depot operations.

By 1986, having operated for some time since the completion of the redevelopment, the features required in an all purpose machine to cover the tasks performed by the Volvo front end loader, forklift and Gremo forwarders became clearer.

A wide variety of available machines and manufacturers were investigated and some were given short trials including the JCB Loadall. This proved to be the most promising and, being a standard production model, the cost was relatively low. An order was placed and the machine went into operation midway through 1987. The promise shown during the short trial was confirmed but its use was short lived due to closure early in the following year giving little time to develop skill and expertise in its use and application throughout the full range of operations.

8.6.8 Other Machines

The unique nature of the Depot operation did create difficulties in trying to find the right tool for the job particularly in the area of handling and stacking. As a result the Depot tended to become the home for machines that no-one else wanted, "just in case they might prove useful". The Gremo forwarders proved very successful but others were not so successful. A Sifer processor converted to a forklift was useful as a back up to the Bonser forklift but it was painfully cumbersome and slow.

A Hy-Mac excavator inherited from the Road Branch in Wales, intended as a loader/stacker once fitted with a grapple also proved to be much too cumbersome and slow.
Long before either the Sifer or Hy-Mac a tractor mounted Atlas crane was used to feed round props for splitting to the Witte Saw and later the Foressian Saw site. Later a hydraulic crane and grapple mounted on a Fordson Tractor was also used. All were well used before arriving at the Depot. None were ideal but most played a useful part in keeping the operation going and keeping the flow of material going out of the gate.

8.7 Stacking/Storage

The way in which products were stacked depended on the nature of the product, the method used, the operation which followed, the space available and whether seasoning was the objective.

8.7.1 Poles - Unpeeled and Peeled - See para 6.8

8.7.2 Pitwood

My impression is that pitwood produced from liner bench conversion from the start in 1946 to around 1952 was close piled, or just heaped in the case of smaller props, around the liner bench. The majority would certainly have been unpeeled. Peeled props produced subsequent to conversion of unpeeled poles may well have been cross stacked to aid seasoning.

The move to peeling poles in the forest appears to have coincided with the rationalisation of supply which resulted in the Depot concentrating on peeled and seasoned pitwood. Photographs appear to indicate that pitwood produced from peeled poles on liner benches continued to be close piled presumably on the basis that a degree of seasoning had already taken place between peeling and conversion.

Cross stacking was done and I think it probable that this was confined to pitwood produced from the conversion of poorer quality unpeeled poles, peeled subsequent to crosscutting. It must have been costly in time and space and would, therefore, have been minimised.

Rail wagons and lorries were mainly loaded using tractor and trailer direct from the conversion windrows but some stockpiling of less popular sizes did occur, presumably to finally clear windrows for the next bay of poles. These stockpiles were placed on rails supported by short billets later replaced by concrete filled 5 gallon drums and were sited in the North West corner of the yard.

The move towards crane loading which resulted from the gradual introduction of lorries capable of self off loading prompted a change in stacking. Products to be loaded by crane were stacked on bearers in lifts not exceeding 3 tons but normally around 1 tons. This development must have prompted the design and manufacture of the boxes so often referred to. Standard times for crosscutting by liner bench, issued in 1962 include in the job specification the requirement that products were to be "neatly stacked either on the ground, or in crates, or on rails clear of the ground, to facilitate subsequent handling".

Plate 47. Cross stacking pitprops to improve seasoning early 1950's. Very costly in terms of space.

Plate 48. General view of stocks around 1979, including pitwood, unpeeled cambio poles, peeled poles and 2 metre woodwool. Mobile Cambio operating in static position top left.

Plate 49. Peeled long butts stacked on bearers to season.

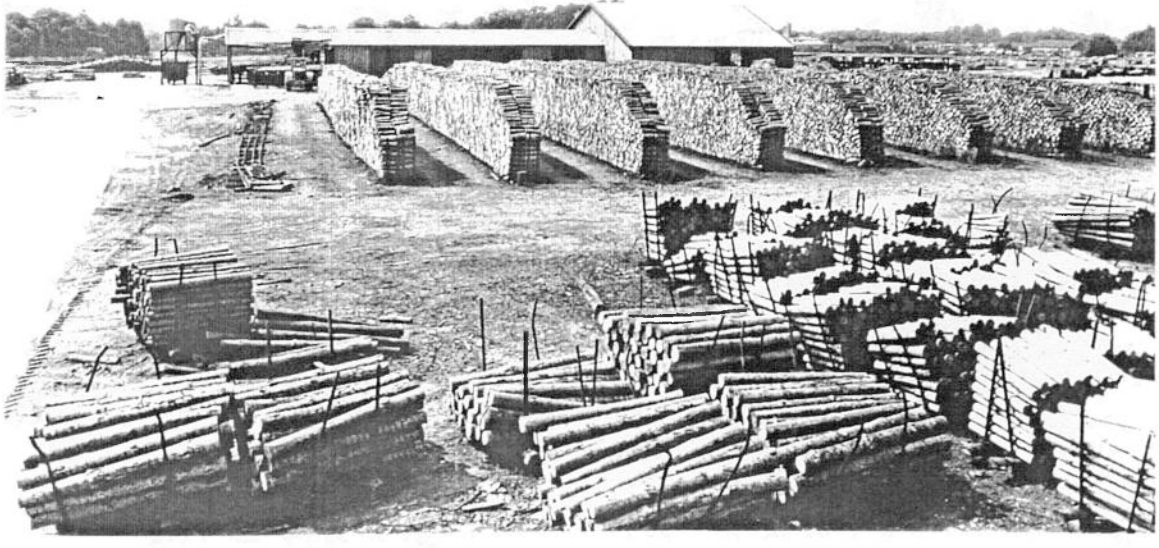


Plate 50 Boxed pitwood with double stacked bays of 0.5 metre woodwool billets which were always hand loaded. 1982 sawmill in background.

The schedule of piecework rates for 1957 makes no mention of stacking clearly indicating that this development took place during the five year period 1957 to 1962. My guess is that it would have been 1961/62 when the crane was first used for loading. The use of boxes, crates or stillages as they were sometimes known, continued to increase throughout the sixties and early seventies, probably up to 1976 when with the installation of the swing line all production lines became static. This required continuous removal of products and boxes provided an admirable method of achieving this. By 1979 and certainly by 1982 on completion of the new sawmill, all pitwood, props and splits were immediately stacked into boxes, straight from the production line. These were transferred to the pitwood stock yard ready for loading in due course from the same box. The number of pieces and the size was checked and recorded on some of the contents with timber crayon as well as being noted by the checker. No further checking was necessary as this recorded quantity was taken as the number of pieces for dispatch at the time of loading. The only exception was in the most popular large diameter round props which were sometimes close piled as they moved quickly, were readily loaded by front end loader or forwarder and could be easily checked when loaded, there being relatively few to a load.

The only other exceptions were the extra dry props put down to achieve extreme dryness aimed at encouraging acceptance of import substitution. These were close piled to a height of around three meters, end on to the prevailing wind. As with all roundwood close piled to this height the top third had to be put up by a hydraulic grapple crane. Front end loaders could not stack side on with a log grapple which was by far the best attachment to use for removal of large roundwood products from the sawmill outside bins.

8.7.3 Woodwool - See para 7.2.3 seasoning

Although possible I think it unlikely that 2 metre billets were ever stacked in boxes. They were close piled from very early on as described in paragraph 7.2.3. When removal from the production line was by front end loader using a log grapple, secondary handling by a second machine capable of stacking close piled billets from the side to a height of 3 metres was always necessary. The arrival of the Gremo Forwarders significantly reduced the necessity for this secondary handling but not completely.

8.7.4 Stakes

Although I can find no evidence to suggest how stake blanks produced in the Depot were transferred to the Creosote Plant I think it likely they would have been loaded in bulk across the bed of a lorry initially by hand direct from stacks at the point of conversion. This would have started to give way to Coles crane loading from boxes by 1961/62 or later as with pitwood. At that time there was no means by which the whole box could be lifted onto a lorry, fork attachments were still ten years away and forklift trucks fifteen years, at the Depot anyway. In any case far better pay loads were possible with bulk loads and the arrival of grapple Hiabs made transfer in this way a simple operation.

With the demise of the Creosote Plant and the return of full stake production to the Depot, boxes were used to contain stakes as with pitwood.

Plate 51. Bundled stakes stacked on railway line bearers for seasoning prior to pressure treatment by local contractors.

Plate 52. Bowater lorry being loaded with 1 metre lengths from strategically parked F.C. loaded trailers. This remained a familiar feature up to about 1964 when chainsaws prompted rideside conversion in the forest.

Some stake customers must have expressed interest in bundled stakes because in the 1971 schedule of piecework rates there was an inclusive rate per 100 pieces for peeling pointing and bundling stakes as well as a bundle only rate of 52 pence per 100 pieces. This involved the use of a cradle, metal strap and strapping tools which may well have been inherited from the Creosote Plant although this is not certain. It is certain, however, that bundling did not persist because none was in evidence when I arrived in 1979. I did investigate an annual payment for three strapping tools which I did eventually find and return, along with considerable stocks of strap which were eventually sold as scrap. Apart from this first short venture into strapping, stakes were always "boxed" from 1970 onwards.

8.7.5 Bark

While bark had no value the only objective was to be rid of it. As stated earlier (paragraph 7.8) attempts were made to burn it but the bulk of it was dumped both within the Depot site and in marl pits in the forest within reasonable distance.

As bark began to assume some value as a result of years of investigation and effort particularly on the part of FC Marketing Officer, Jack Aaron, it was allowed to accumulate in large heaps. Initially, these heaps resulted, as before, from dumping by tractor and trailer but instead of spreading the bark it was pushed into a large heap. Once milling or pulverising started the equipment was designed to deposit the bark in one large heap which became very difficult to manage when sales were slow out of season. As before, unmilled when produced was dumped and pushed into a large heap. These provisions were very soon proved totally inadequate. There was no guarantee that the bark would remain clean and uncontaminated with either soil, stones or any other undesirable material. Sequence of dispatch could not be related to sequence of production, in fact, the last produced was usually the first loaded, also very undesirable for horticultural markets. Lastly, stock control was virtually impossible.

The bark bays installed as part of the new peeler complex really did overcome all these problems. The vastly improved stock and quality control coupled with the ability to supply in the same sequence as production usually with an interval of at least six weeks for maturing, all were major factors contributing to the establishment of BCD bark as being the best available and as a result commanding top prices in competitive sales by tender.

8.7.6 Sawdust

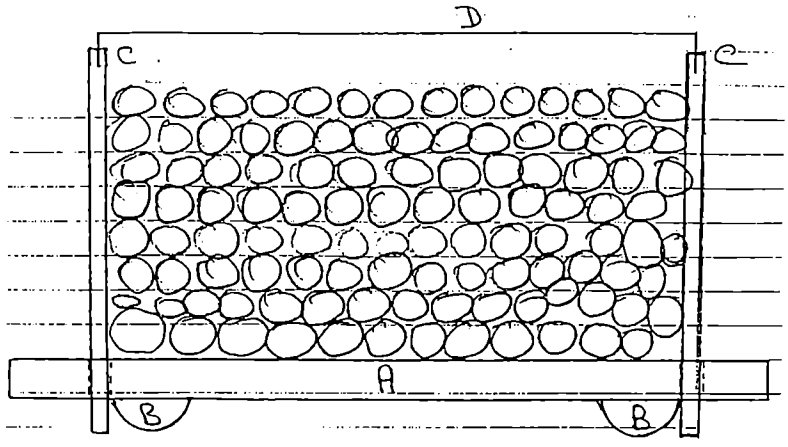
As indicated in paragraph 7.9.2 the value of sawdust improved considerably once its condition and quality could be assured. Storage in the first of the bark bays achieved this assurance resulting in a fivefold increase in unit income over the final five years.

8.7.7 Boxes

8.7.7.1 Design and Use

Fig 30

THE BRANDON DEPOT "BOX" (PALLET)



A box was made up from two complete units comprising three parts in each.

a. A square sawn or split timber around 2.1 metres in length with half round side uppermost if splits were used. Two holes were drilled as shown to readily take 45mm diameter pipe. Douglas fir and larch were used whenever possible.

b. Two half round feet nailed to the underside of the main bearer to provide a raised platform.

c. Two steel pipes at least 1.8 metres long preferably 48mm outside diameter with walls 4mm thick.

d. A mild steel tie rod bent at right angles at each end. The two ends were inserted into the top of opposite pipes, the rod serving as a tie to prevent the pipes spreading.

Although there were a few of these around the yard in 1979 they were never used and my impression is that it was probably a device which was devised, tried and abandoned fairly quickly as the ties would have to be placed in position after the lift was placed in the box but before the tension in the sling slackened. This would have been time consuming as would the removal before loading by crane from the box.

The two units were set up as a pair and products were stacked as indicated, providing the link or bridge which combined the whole thing into a single unit readily handled by a forklift truck. It was essential that the two bearers were placed in such a way that both would rest on the extended forks and the products had to be in line parallel to the forks. This requirement placed limitations on the choice of forklift truck. The distance of the load centre along the forks combined with load weight and lift height being the major factors influencing the stability of a forklift truck. No problems were experienced with any of the equipment used to move boxes containing products up to 3,000mm long.

Surprisingly, to me anyway, nobody remembers the introduction of the first box. My guess is that it was around 1960. All the evidence seems to suggest this: Celotex was stacked into and loaded by Coles crane from boxes or crates or stillages as they were known then and Standard Times from 1963 included crates as one of the stacking options in the job specification.

No equipment existed for moving the boxes when full but the raised platform allowed a rope sling to be passed under and around the contents of the box parallel to the bearers and at right angles to the product length. The sling had an eye spliced at either end and one was passed through the other and attached to a C hook which in turn was attached to the crane hook.

As the crane rope was winched in so the sling tightened around the bundle contained in the box, holding it securely and lifting it clear of the box and onto the load.

Any size of product from 800mm to 3,000mm in length was readily contained in the standard box and on occasions even shorter lengths were contained satisfactorily. Once emptied a quantity of box parts could be easily moved to where they were next needed initially by tractor and trailer and later by forklift having been placed in a box themselves.

The box was extremely versatile, and relatively cheap. It could be produced locally mainly from materials available on site. Almost two hundred separate product specifications were stacked and stored separately in known quantities in one universal container which was infinitely reusable and readily replaceable.

Stock holding and potential loads were calculated in numbers of boxes according to product size. Like so many of the best ideas the concept was simple, effective and efficient.

8.7.7.2 Box Manufacture

As far as I have been able to ascertain the timber for the first boxes was sawn at Calders adjacent to the railway just down the road. The holes were drilled by Hedley Mills the local blacksmith whose workshop was a few hundred yards from the central crossroads in Brandon on the left down the London Road. Feet were not essential while only crane loading was involved but they did allow the pipes to drop further and generally improved stability on rough ground. The early pipes were old steam engine boiler tubes which were barely strong enough for the job besides being well rusted from the outset.

When I arrived as Manager in 1979 there were large numbers of badly bent pipes. These were straightened by the handyman or others during one wet time. An old steel bolster was set firmly in the ground with a hole near the end at waist level. Pipes were straightened cold by inserting them into the hole and bending them as required to roughly straighten them.

The generally poor condition and the regular need to spend time straightening coupled with the high incidence of collapsed boxes prompted a search for better quality. I opted for 45mm outside diameter with 4mm wall seamless which was the most suitable available on the second hand steel tube market. It came in random lengths around 20 feet. Each length was cut into four or five pipes of equal length around five feet according to the length of the original pipe. They were cut locally by M I Edwards and cost around £1.25 each but proved far superior to the old boiler tube. The last batch purchased were the same specification but galvanised. These cost around £1.50 each and were by far the most satisfactory of all the pipes used.

The use of the larger pipe created three problems:-

a. Drilling holes 45mm in diameter in green wood presented a problem. A carpenters' 1¾" hand auger with the eye removed, used in a heavy duty electric drill with a clutch almost solved this problem. The holes were a very tight fit for the first few weeks in service but they soon became worn and easier. Any that were too tight were burnt out using a heated pipe.

b. Having two sizes of pipe reduced flexibility. The smaller diameter boiler tube was replaced over a fairly short period of about eighteen months.

c. Inevitably even the better quality pipes were bent occasionally, particularly when products were removed from the boxes using hydraulic cranes with a grapple as was increasingly the case in later years. Manual straightening was out of the question but we found a contractor with a portable hydraulic press device who came to the Depot for a day or so and straightened the accumulated bent stock for around half the cost of a new pipe each.

Boxes were made up by the handyman during normal times but if uptake of pitwood slowed for any reason, pressure for more boxes would require extra staff to meet the demand.

The miners' strike was the most difficult time when there must have been at least 1500 boxes in use throughout most of that year.

This represented quite a sizeable investment at around fifteen pounds each but with the better quality pipes they lasted for many years. When the yard was finally cleared, the box bearers were sold to the charcoal burner who was about the only person able to use them. Among those delivered to him were still some square sawn bearers which must have been 20 to 25 years old. Once converted to charcoal the bottom of the kilns were littered with numerous 6" nails used to attach the feet and the obvious reason which limited the bearers to this use.

8.7.7.3 0.5 Metre Woodwool Boxes

These were also manufactured "in house". They resembled a conventional pallet about one metre square but they had solid spacer bars down each of one pair of opposite sides. These were drilled to take 4 short pipes about one metre long to provide pins to retain 2 bays of 0.5m billets on the pallet or box which could be moved by forklift truck or any other machine with forks.

8.7.8 Bundling

Although bundling of pitwood finally came about late in the history of the Depot, reference to bundling first appears in a schedule of piecework rates dated February 1971 but only in relation to stakes. This was, of course, shortly after the closure of the creosote plant and it is possible that bundling really started there before closure.

I think it unlikely that any significant amount of bundling was done at this time and it may have been limited to specific customers and possibly to stakes sent to Chase Sawmill for pressure treatment and subsequent FC use.

Photographs showing stake peeling on a Coles Hurricane at the Depot do indicate a semi-circular frame probably used to make up bundles early in the 1970s but there is no evidence to suggest that bundling of stakes was either regular or on anything but a minor scale.

Within a few days of my arrival as Manager in October 1979 I discovered that a sum of £80 a year had been paid for the hire of 3 strapping tools. It took some time to find them. One was with the Estates Section at Santon Downham, the other 2 were secreted away in a store cupboard where they had obviously been for a very long time together with various brands of clip and steel strapping. It finally took 3 months to sort out and return the tools and stop the ongoing rental payments.

No more thought was given to bundling until mid 1982 when the National Coal Board raised the subject in relation to the delivery of short pitprops.

8.7.8.1 Bundling Short Pitprops - Early Trials

The problems involved in the delivery and handling of short props had been the subject of discussion between FC and NCB for a number of years. The problem was that the only safe way to load props less than one metre long was across the bed of a lorry in bays retained by the headboard and back pins.

This implied hand loading and offloading although they could be and very often were just pushed off in preference to manual offloading.

NCB preferred these short props to be loaded as with the longer pitwood, parallel to the bed of the trailer in bays retained by 2 bolster pins each end with bearers between lifts when necessary. Loaded this way it was virtually impossible to ensure a safe load which was stable enough to allow crane offloading on arrival at the other end. Loads came back rejected as being impossible to offload by crane because the bays had moved with some ends touching. In fact I can remember more than one such rejected load being offloaded by crane back at the Depot but something had to be done, if only to reduce the hassle and aggravation.

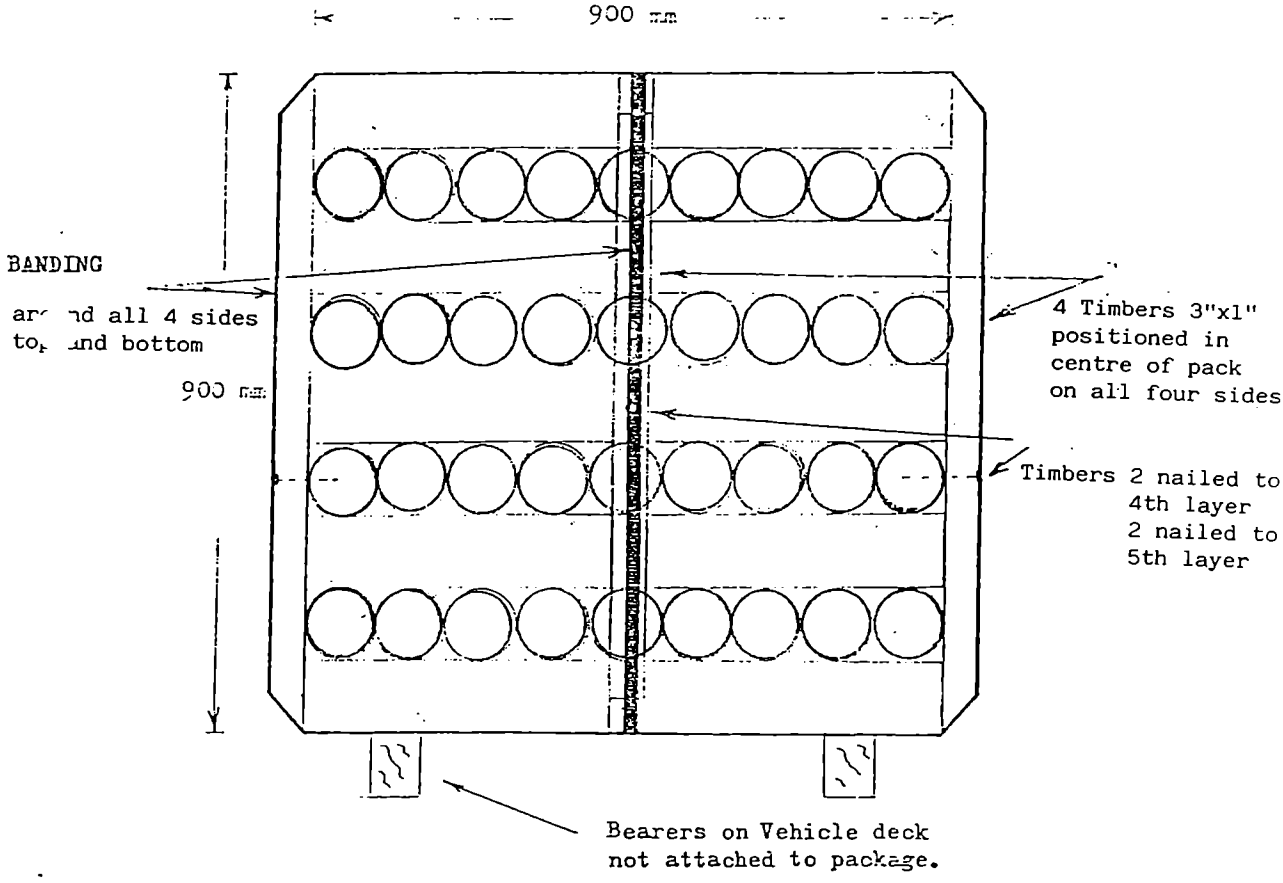
Work Study did some work on strapping small roundwood during 1979 (69) but a letter from Vernon Cridge, NCB Stores Purchasing Branch, Timber Section, received in August 1982 prompted the first serious trials that I am aware of.

The letter made two proposals for consideration, devised by their packaging section. The first proposal, a copy of the original drawing of which is shown below, Fig 31, was tried unsuccessfully and was abandoned as being impractical. The second proposal (copy of original drawing shown below), Fig 32, was tried and was considered to be a possibility. The overriding requirement was that bundles must not exceed 1.5 tonnes, a specification which had prevailed over many years.

Trials resulted finally in the delivery of a trial load to Bates Colliery in Northumberland. The bundles were made up from 900 x 90mm props clad in 1,800 x 130mm splits strapped to the Westoe design. Both loading at BCD and unloading at the colliery were observed and it was concluded that bundling of small props to this design was a practical possibility using cheaper strapping on smaller bundles which would better suit most collieries (70). More pressing matters in the shape of the overtime ban starting in October 1983, followed by the year long strike 1984-85, presumably set the matter aside as no more was heard until 1986.

PROPS 900x100m

Fig 31



QUANTITY OF PROPS PER PACK	81 (9 layers of 9)
APPROXIMATE WEIGHT	1600 lbs.
BANDING.	2 bands of strapping.

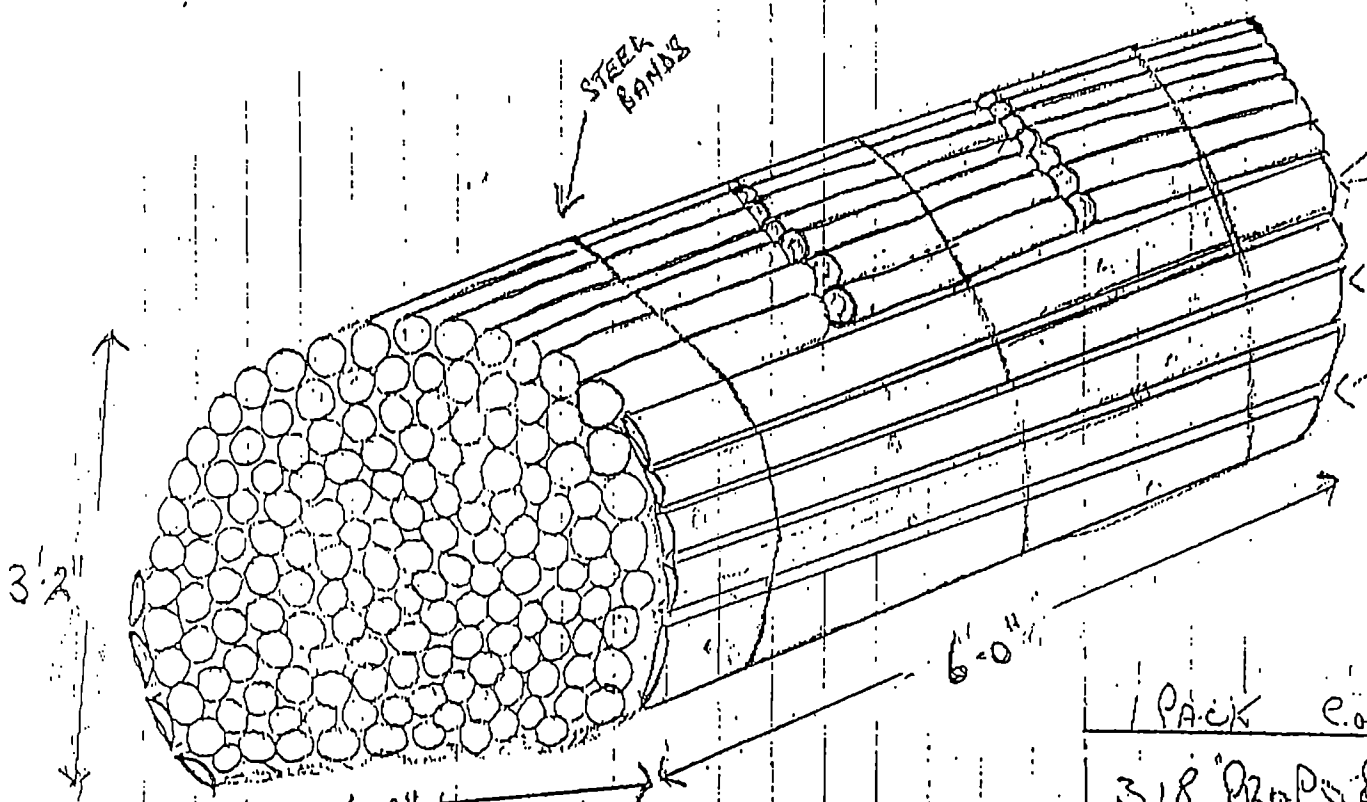
Note. PROPS 750mm in length and below it is suggested a double pack placed on 1200mm - 1350mm - 1500mm Deck Boards.

WESTOE COAL

N/E. AREA.

600 x 90 PROPS HOMEGROWN.

242 pieces per m^3.



SIMILAR TO 6' SPLITS.

CONSIDERED (WASTE PRODUCT)

PACK CONSISTS OF

318 PROPS & 13 x 6' SPLITS

$1.3\ m^3$

8.7.8.2 Bundling all Pitwood

The proposition to bundle all props and splits in standard packs was first put during August 1975. Graham Hobbs and Ken Buswell (DO H&M) were not at all keen, seeing many problems in terms of extra staff and equipment, materials, the need for considerable reorganisation, the possibility of reduced load weight for the haulier, loss of flexibility in response to changing orders and an estimated cost of £6 per tonne with no real benefit to the Depot as supplier.

Nothing came of this or subsequent approaches until a letter written in October 1986 indicated that BC would expect all props and splits 1,200mm and above in length to be bundled in standard packages as soon as possible.

As Manager at the Depot I was unaware of this letter, although I was aware BC were thinking this way, until I received a memo from FC HQ via Conservator on 24 December 1986 stating that they had agreed to bundling as required at a charge of £1 per bundle and that it might take Depot staff a week or two to get the job organised!

The number of pieces specified was exactly the same as that suggested in 1975, not really surprising as the product range was much the same. Their objective was to receive a package suitable in size, weight and general convenience to go straight down the pit to the face for use as delivered. This meant that bundles would be smaller than the lifts previously loaded by crane.

The Christmas holiday and bad weather which followed prevented early progress but by 24th January the whole subject had been thoroughly researched and firm proposals put to Conservancy Operations Manager, Norman Dannatt, in memo/report form (71).

The proposals were accepted and orders placed for materials and equipment.

Blueten Steel Strapping 19mm wide x 0.58 gauge as specified by BC was obtained from Acme Gerrard who also supplied the seals.

Two strapping dispensers and a cutter were purchased also from Acme Gerrard who also supplied two Tensioner Sealer Combination tools with torque tension control (ref A12C6). These together with one standard tensioner as a spare were hired on a maintenance and repair contract.

An Atlas loader was transferred from Pexton Pitwood Depot which had been closed and a trailer suitable for modification was transferred from within the Conservancy.

Initially bundles were made up using 2 portable formers used in previous trials in conjunction with the Atlas loader while the trailer was being modified. The trailer was a small low loader type trailer suitable for towing behind a Landrover or similar vehicle. The 2 pairs of wheels on either side could be jacked up hydraulically so that the trailer rested firmly on the ground.

Modifications were substantial and included increasing the width by one third by introducing a new central section to provide a mobile strapping platform. Two sliding formers were centrally mounted on rails with the facility to adjust the distance between them. This was done using a hydraulically powered winch cable. The formers were constructed from "U" section steel channel which allowed the strapping to be fed direct from a dispenser mounted adjacent to and in line with each former into the channel under and around the props once placed by the Atlas loader. There was a fixed tamping plate at each end attached to the former but some distance outside it. This distance was adjustable in the sense that there was a choice of fixed positions. The hydraulics used to operate the formers and tamping plates were linked into the Atlas loader hydraulic system but were operated from a control panel on the trailer.

Once the loader had transferred the requisite number of props or splits from a box into the formers the tamping plates were used to square the ends. Once square the grapple was used to grip the bundle while straps were applied and sealed. The loader then transferred the bundle to a stock pile or direct onto a trailer and the cycle was then repeated. The facility to raise the wheels and so drop the trailer onto the ground was retained to improve stability but in practice this was seldom used.

During March 1987 a total of 170 cubic metres was bundled. By the end of March 1988 by which time all remaining pitwood had been delivered prior to closure a total of 7,550 cubic metres in 13,640 bundles had been supplied. This represented 50% of all the volume supplied during the same period, although from November 1987 to closure the proportion increased from over 70% to 100% as the volume taken up decreased.

A 3 man team was employed on the operation, 2 on the trailer and the Atlas loader operator. Once the team developed skill and expertise they loaded all bundled material either direct onto lorries or from stacked bundles. Over this same period the average volume per bundle was calculated as 0.55 cubic metres.

In a letter dated March 1987 British Coal issued a revised schedule which reduced the number of 190mm pieces per bundle by 20% and 200mm and above by 40%. Additionally no minimum length was to apply so that all pitwood was to be bundled.

This change significantly reduced the potential maximum bundle diameter catered for in the design of the trailer equipment and the grapple purchased for the atlas. It also reduced output overall and increased cost per cubic metre but the agreed charge of £1 per bundle remained unchanged. I later learned that at least one of our competitors in the private sector had negotiated a charge of £1.35 per bundle, a very significant difference. Actual cost over the 12 month period April 1987 to March 1988 including wages, materials, machinery and oncost (Forest Cost) was £3.12 per cubic metre or £1.72 per bundle at 0.55 cubic metres compared with a predicted cost of £2.88 per cubic metre or £1.44 per bundle at 0.5 cubic metres per bundle.

In 1972 52 pence per 100 stakes was the rate paid for bundling which for 1.7 metre x 5 to 8cm is equivalent to 90 pence per cubic metre wages only.

In 1975 cost of bundling pitwood was estimated at £6 per tonne which at 1.2 cubic metres per tonne is equivalent to £5 per cubic metre.
Regrettably time ran out before the system could be fully developed and fairly tested but as far as circumstances allowed it proved to be effective with considerable potential in that the crane and slingman were no longer necessary. This resulted in a net increase of only one man with far greater potential for selfloading on the part of the haulier but again time ran out before this could be explored further.

8.8 Production, Quality and Stock Control

8.8.1 Poles

From 1946 to 1959 when the first Avery Weighbridge was installed, input was controlled by the piece using conversion factors to convert to volume. The introduction of local volume tables which defined A, B and C poles by volume must have simplified the system but individual poles were still counted and sample loads checked at the Depot on a regular basis.

Quality checks were possible at three stages. Checking for payment in the rack, at loading and unloading in the Depot, each stage involving different people. The arrival of the weighbridge allowed control of input on a weight/volume basis. After many sampling exercises over the years one cubic metre ob per tonne throughout the year appeared to be about right.

Moves towards payment for felling by the tree, the use of hydraulic grapples to load and unload poles, all served to reduce opportunities to check quality. Finally, in the eighties BCD poles were not checked at all in the forest and the volume produced assessed on the basis of weight over the weighbridge. Each load was checked on the weighbridge against specification and quality and loads were rejected occasionally but inevitably the standard dropped especially if pulp markets were slow.

From 1963 when machine peeling with the first Cambio started it was essential to maintain control of unpeeled and peeled stock volumes. Peeled volume was deduced from assumed lineal feedspeed and clocked running hours. Volume was calculated from lineal throughput and sampled or assumed mean diameter.

By the time I arrived in 1979 a monthly return had been devised and in use for some years. This recorded stock volume in peeled and unpeeled Cambio and Long Butts separately and smallwood volumes.

Physical checks were made annually but I am not aware of the method used to assess the volume. At my request Work Study carried out a project to establish a simple means of checking true volume of stacked poles.

As a result of sampling, factors were produced for Cambio poles and Long Butts giving true volume in cubic metres for one square metre of stock at the butt end (72). At stock taking the running length of stacks were measured across the butt ends and the stack height measured at 20 metre intervals.

Subsequent provision of measuring devices in the new peeler plant together with accurate recording of the volume converted throughout the yard made the monthly calculation and checking of pole stocks relatively simple. Operators feeding the various conversion points recorded the number of grapple loads by Cambio and Long Butts to allow the total volume converted from peeled poles to be split between the 2 categories. Grapple loads of each pole category were sampled to establish a mean volume. Physical checks made at the year end or when stocks were low confirmed that the methods employed gave reasonably accurate control and no major discrepancies ever occurred.

8.8.2 Products

a. Pitwood

Throughout the 42 years of pitwood production at BCD the basis for production, payment, stock control, supply and sale was always by the piece. Every single prop and split had to be counted at the time of production and again when loaded. Each piece was probably handled at least 3 or 4 times giving ample opportunity to reject any sub standard products. Piece work rates for liner bench conversion included an allowance for knotting, the removal of proud knots with a Yorkshire billhook.

At least 3 Foresters and 3 Ganger/checkers spent most of their day tallying, recording and checking production.

In a letter Jim Davidson (Appendix 6a) recalls that, as a young District Officer at Thetford in 1949, he was detailed to check stock and revealed many discrepancies. He recalls that there were around 150 different sizes even then and that quality control was considered of paramount importance in the campaign to win collieries over to Home Grown and oversize props increased haulage costs.

The use of boxes for pitwood must have resulted in considerable savings on checking quantities as, once counted, the size and number was recorded in timber crayon on the end of props and the side of splits and that figure was used for loading or stock check. This immediately reduced handling and the opportunities to check for quality. Crane loading reduced handling even further.

Moves away from liner bench conversion towards more mechanised conversion methods ended with the start up of the Swing line in 1976 which had been preceded in the mid to late sixties by the move to payment by the tree for felling. These 2 developments resulted in much reduced opportunity for inspection and rejection of sub standard poles and poor snedding with absolutely no opportunity for knotting as in the past on liner benches.

Selection for quality was possible in that poor quality material could be cut into lower grade products such as pulp or firewood but this had to be the exception as the systems were geared to having the right quality of material to process.

In addition to these developments forester staff was reduced to one plus the Manager and there were 2 Gangers, one responsible for all the checking on the Swing line and fencing products, the other handling the Pendulum Line and the whole of the pitwood stock yard. With 7 men the Swing line could produce 2000 pieces per hour in 14 different products simultaneously, leaving little time for one checker to do more than just count and record numbers.

The introduction of the BSI Quality Assurance Scheme presented some problems which are covered earlier in para 7.2.1.

In order to fulfil commitments to British Coal efficiently and effectively it was essential to exercise stock control on a daily basis. Daily records of production and dispatch for each of the prop and split sizes were prepared and the information recorded daily on stock ledger sheets, again one for each size. Parallel with the stock sheets another set of ledgers carried a running record of orders placed and dispatches giving a daily balance to supply for comparison with stock, thus indicating the number of pieces still to produce to fulfil current orders.

This daily exercise was tedious and time consuming but very effective. The system was in use in 1979 and I have no idea when it was first introduced. It would not surprise me if it had its beginnings as far back as Jim Davidson's stock check in 1949 as the need for daily stock adjustment must have been just as great then as in much later times. The task had to be completed daily no matter what. To retrieve a backlog of entries would have been very difficult on the basis of available time alone and stocks could change rapidly so information more than 24 hours old was of very little value. Numerous efforts were made to devise a computer programme to handle this and other elements of Depot produce handling records but all to no avail. The number of products, collieries and individual orders combined put it completely outside the scope of the standard FC Contract and Credit Control, Invoicing Sales analysis for Produce Package (CCISP).

Various investigations both by FC and external private companies failed to produce an acceptable solution before the possibility of closure prevented any further discussion.

Stock was checked physically at the year end and individual sizes were checked whenever book stock indicated that stocks were down to about 4 boxes or less.

b. Woodwool

0.5 metre Woodwool billets were paid for by the pallet on the basis of 70% stack measure on an average pallet, the same volume being used as the measure of production.

2.0 metre billets were paid by the piece and a conversion factor for volume allocated from periodic sampling to give the measure for production. Quality control, although the specification was much less demanding, was much as for pitwood with reduced opportunities for rejection as mechanisation progressed.

Stock control was exercised by 70% of stack measure. Stacks were simple to measure, length and height every 20 metres being the norm.

Sale was on the basis of 70% stack measure on the lorry and no problems occurred in reconciling production, dispatches and stock so long as regular checks were made on the mean diameters being produced.

c. Fencing Products

All aspects of control were very much the same as for pitwood, with similar developments as mechanisation increased particularly with stakes produced on the main conversion lines, but only for completed stakes. No control was maintained at the various stages of production ie unpeeled unpointed blanks and peeled blanks. With the start of annual negotiated agreements with major stake customers in 1983-84 accurate up to date stock records of each stage in production were essential to the successful management of the agreements. Stock sheets were maintained for the five most popular lengths, 1.5, 1.7, 1.8, 2.1 and 2.4 metres by three top diameters 3-5, 5-8 and 8-10cms. Each of the fifteen specifications were recorded separately as unpeeled unpointed, unpeeled pointed and peeled and pointed. Ledger sheets were updated weekly, a frequency which proved adequate. Again this recording was time consuming but, prior to its introduction, levels of stock in partially prepared stakes were a matter for conjecture and they were usually very high. With known levels of stock at each stage, production could be planned and managed with the ultimate objective of keeping stocks to a minimum.

d. Bark

Once bark became a saleable product the ability to manage stock was essential but nearly impossible with bark being deposited in very large single heaps on sites which made quality control extremely difficult particularly with regard to the exclusion of foreign material likely to damage grading and sorting machinery used by customers.

The elevator/conveyer and bay layout provided by the new peeler complex resolved all of these problems. Stock could be readily managed by quality, maturity and quantity and as a result the market developed rapidly. Experience using the plant developed expertise and confidence in forecasting production which, in turn, resulted in stocks being kept to a minimum.

c. Firewood

I have no knowledge of how firewood was controlled prior to the arrival of the charcoal burner in 1963. Presumably, as for most of that time off-cuts were not paid for in production, it would not have been under very tight control.

Supply to the charcoal burner was direct from production line to the site via the weighbridge with no stock holding involved. This, of course, was from 1 July 1975, prior to this payment was on the basis of charcoal produced weighed out over the weighbridge. From 1963 to 1982 very little firewood was available, the charcoal burner taking all available material. From 1983 increasing volumes became available for sale as firewood due to difficulties experienced by Valentine Wood the charcoal company.

Off-cuts surplus to their requirements were weighed before stockpiling and recorded. All sales were by weight over the weighbridge which were also recorded allowing periodic calculation of the stock balance.

8.9 Loading

As already stated previously (see 4.3.1) in 1956 Backhouse and Nimmo wrote that loading accounted for one third of all man hours, all of it being by hand and not easily priced bearing in mind the multiplicity of products and sizes. Six tractors with trailers each with a gang of three men were engaged full time on loading.

Pitprops were loaded onto a 6 ton trailer and towed to Brandon station via the station weighbridge where they were off loaded, again by hand, onto waiting railway trucks. Weighing was on the Depot weighbridge once the Avery Weighbridge was installed in 1959. Celotex, Bowater, PIM Boardmill, stakes, harvest poles and presumably firewood were all hand loaded onto customer lorries mostly direct from stacks but not Bowater. A regular feature at the Depot in the early days was the two trailers loaded with Bowater and parked with sufficient space between them to park a lorry. Seaman Club, Bowaters haulier, would park their lorry between the two loaded trailers and men would be called in from other work to transfer the material from trailer to lorry by hand.

Plate 53 Cross stacked pitprops hand loaded onto a lorry for transfer to railway wagons.

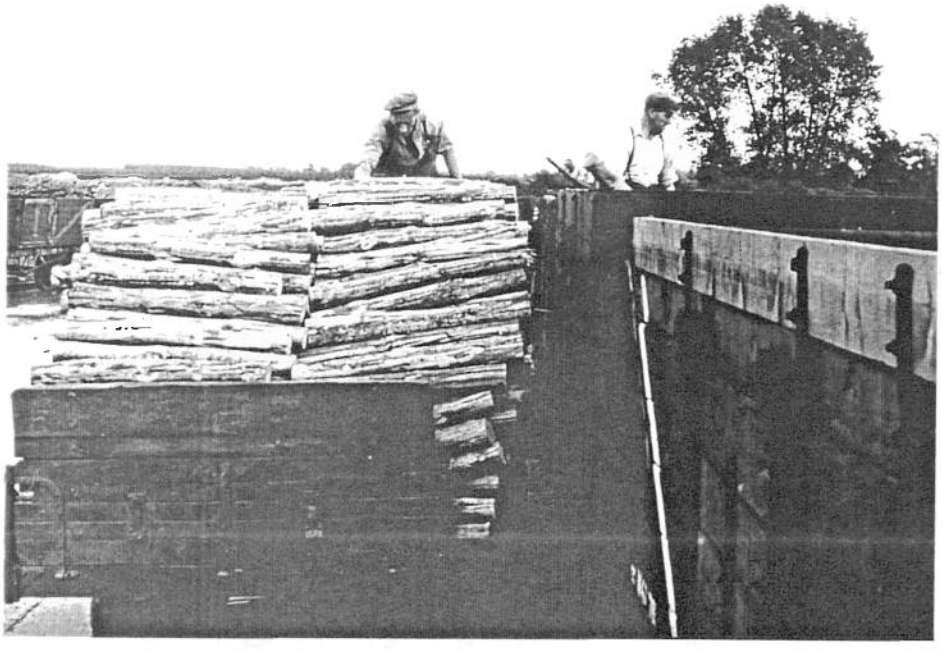


Plate 54. Handloading railway wagon with pitprops from trailer previously hand loaded in the Depot

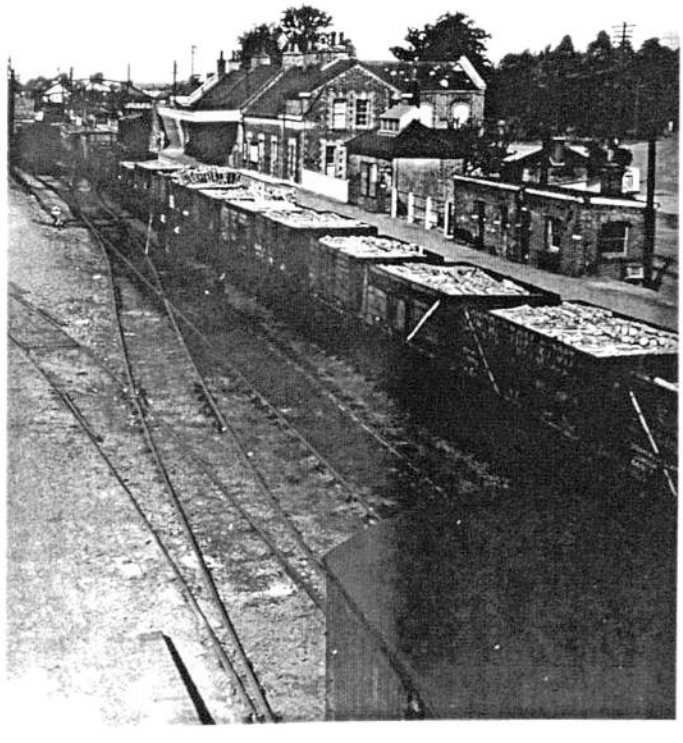


Plate 55 Loaded wagons standing at Brandon Station.

In 1962 Work Study prepared Standard Times for hand loading South Wales unpeeled pitwood on a tonnage basis while peeled pitwood was based on a Standard load which was defined as 1500 pieces of peeled 3 inch x 3 foot props at 45 Hoppus feet per ton. To enter the table only numbers of pieces and the load weight were required. Through these two factors the equivalent in standard loads could be determined irrespective of prop size and standard loads could be accumulated over a week for payment purposes. Standard Times were also prepared for hand loading lorries with any one of the number of products prepared at that time. These were also on a tonnage basis. (73)

Celotex was the first product to be loaded by Coles crane. This started after 1957 when the product was still hand loaded at 14 shillings (70 pence) per load. The Coles crane loading of Celotex was from a crate, stillage or box as they came to be known, using a sling, initially a rope sling and later a wire rope sling.

By 1962 pitwood was being loaded by Coles crane either from boxes or from lifts stacked on bearers and Standard Times were produced covering both loading and unloading of lorries by Coles Crane on the basis of a bonus per lorry for unloading and a bonus per lift for loading (74). The first crane was purchased in late 1948 or early 1949. It was a small 5 ton Coles Crane which was barely adequate for unloading and at this time there was virtually no loading by crane. Sometime later this crane was replaced with a bigger Coles Crane with a bigger jib which gave adequate clearance when off-loading. The arrival of hydraulic grapple cranes in the early to mid sixties reduced the off-loading requirement by the Coles crane which allowed loading by Coles crane to develop. A second Coles Crane was obtained but this had less lift height, was powered electrically and really built for hard level surfaces. It was slow to move and not well suited to the rough ground conditions present in the Depot at that time. This third crane was mostly used for loading railway wagons and was driven by Bill Crowther with Rex Whitta as mate. Bill Linge acted as mate to Stan Cator, the number one crane driver, a job he continued to do until he retired in the mid eighties. A fourth Crane was tried for a very short period. This was a Jones with solid tyres but its stay was very short lived. The lorry mounted hydraulic crane with a grapple provided an ideal means of loading the larger round props and 2 metre products like Woodwool and Boardmill. By mid 1970 even 1 metre Bowater was loaded by grapple crane in the forest where previously it had been hand loaded as it always was while produced at BCD.

Various grapple loaders were used to load larger round props particularly once the last Depot lorry was taken out of service in the early eighties. By then it was considered that there were less costly machines available to fulfil the same role. Machines were sent to the Depot usually when no other home could be found. They included a tractor mounted hydraulic crane and grapple, a Hymac Excavator with grapple and, of course, by 1970 the Volvo Front End Loader had arrived with its battery of different attachments. The one thing all of these items lacked compared with the lorry was carrying capacity. The Gremo Forwarders did have that facility and proved to be extremely well suited to Depot requirements including loading pitwood sizes and woodwool.

The JCB Loadall was purchased as a replacement for the Gremo Forwarders when they were to be taken out of service. (They were past normal lifespan, repairs were becoming expensive and spares difficult to come by.) It was intended as a general service machine to cover all the handling and loading jobs in the Depot. It showed early promise and was very versatile but closure prevented extended experience aimed at confirming first impressions.

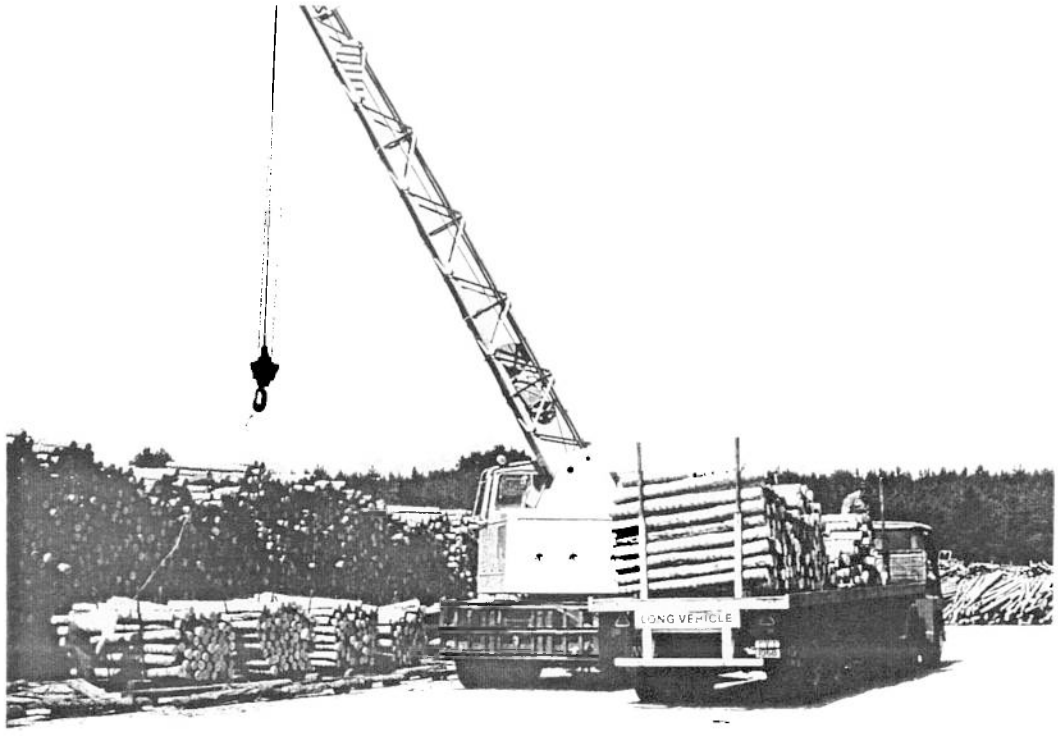


Plate 56. Slingman fixing wire rope sling around box of props ready for loading.

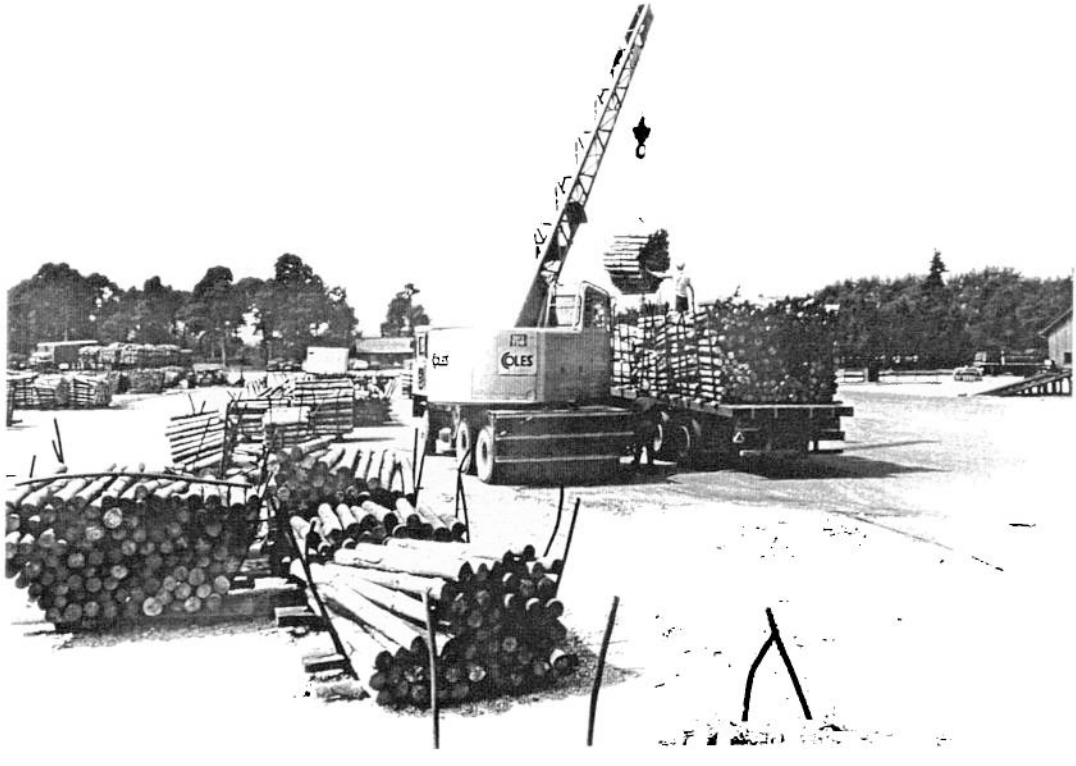


Plate 57. The lift ready to load with haulage contractors "shunter" organising the load. Note mixed load of props and splits.

Crane loading persisted almost right up to closure with virtually no change although once bundling started crane loading reduced as the proportion of bundling increased. Crane loading involved a two man team, the crane driver/operator and a sling man who attached the slings round the lifts. NCB stipulated the maximum permissible lift as being 1.35 metres in diameter and 1.5 tonnes in weight irrespective of product size. As all pitwood loads were required by the NCB to be weighed and lifts had to have bearers laid between them making them simple to count, checks were easy to make. Complaints were not numerous but they did occur. The wide range of product sizes and the considerable variation in moisture content created considerable difficulties in meeting these requirements.

Wire ropes were purchased complete with test certificates which had to be recorded in a special Factories Act Register of Lifting Gear. A third man was provided by the pitwood haulage contractor as a shunter to provide trailers in the pitwood stock yard, suitably equipped for the size to be loaded. He also supervised the loading on the trailer placing bearers between lifts and roping opposite pins at half or three-quarters height to prevent spreading.

As boxes were loaded the crane driver recorded the size and number of pieces recorded on each box at the time of production. These details for the whole load were sent back to the weighbridge with the load via the shunter where they were taken as the quantity to be advised and invoiced.

Stakes were loaded much as pitwood except that they were loaded across the lorry bed without bearers. Payment in 1962 was calculated on the basis of 2.48 Bonus Standard minutes per lift for both crane drivers and sling man. A differential on the price per standard minute gave the crane driver a higher bonus rate. In 1966 the bonus rates per lift were 4 d for the driver and 3.8d for the sling man. One feature of customer loading which started in the very early days of crane loading and persisted throughout was that it continued whatever the weather and when two cranes were in operation they staggered their meal breaks. This served to ensure all the days loading did, in fact, get done, no mean task with up to fifteen Celotex lorries to load, other lorries to unload and at least some of the pitwood loading in the early to mid sixties.

In January 1967 a new Coles Aeneas Crane was purchased. It had a much longer jib and greater lifting capacity which reduced the necessity to move. In most cases a lorry could be loaded from one position assuming only one size was to be loaded. Work Study conducted studies in 1977 (75) but payment continued to be based on a bonus per lift.

The Crane continued in service for twenty years driven by Stan Cator whose careful maintenance throughout ensured reliable service right up to early 1987 when bundling gradually replaced loose loading and eventually the crane was no longer required. Its arrival in 1967 was an event considered locally to be of some consequence and reported in the local press. Its departure was not without incident. A decision was taken that it should be driven to Derby where it was to be sold at auction, a decision about which I had reservations as we knew one half shaft was suspect. The journey went well until a few miles short of Derby when my fears proved to be well founded but it did finally reach the auction site and was indeed sold to serve somewhere else, for who knows how many more years?

Handloading of 0.5m woodwool persisted right up to closure despite a number of investigations to find a better method (76). Pitprops less than 900mm long were also handloaded as they could not be loaded safely by Crane. Bundling improved the situation as it was possible to bundle all but the very shortest props.

Bark and sawdust were loaded using a small 1 cubic metre capacity bucket on a Volvo front end loader. To get extra height for high sided bulk tippers which were generally used for such light material, a ramp was constructed from bark and rough slabs of concrete. The whole structure was unstable and with sales increasing on my arrival in 1979 I was far from happy to continue in this fashion. Eventually authority was given to order a mobile steel loading ramp. The ramp was constructed by M I Edwards and served the purpose well until a high lift light materials bucket was purchased for use with a Volvo. This was a highly successful piece of equipment. A load of 24 cubic metres of bark could be loaded in around 8 minutes. The ramp was placed over the extended wash bay pit where it served to facilitate steam cleaning and general maintenance until it was transferred to Suffolk Forest District where it was used to supplement the Workshop facilities there for the duration of the October 1987 windblow clearance.

8.10 Delivery

8.10.1 Rail

As far as I am aware the only product sold delivered throughout the 42 years of the Depot's existence was pitwood. Very occasionally special small orders were delivered by FC lorry on a cost plus basis as a "one off" arrangement but this was not a frequent occurrence.

Contracts to supply pitwood were always on a delivered basis and during the war and the years that followed, rail was the obvious choice of transport. In fact, there is little doubt that the choice of the Brandon site was influenced by the proximity of the railway station and sidings.

Up to 2 trains, sometimes 50 trucks, were loaded in a day and trains left daily for coalfields throughout the country. At the same time Jim Davidson recalls that in the early 1950's colliery managers started to request delivery by road particularly in the South Wales coalfield. He also recalls that rail freight was not without its problems. There was difficulty in getting large enough trucks to take a respectable payload and difficulties over weighing wagons at Ely often led to disagreement with British Rail over their weighing methods and accounting.

Payment of rail freight was by weight which prompted considerable investigation into seasoning. The gradual move towards delivery by road continued through the fifties and by 1956 increasing rail freight charges provided further incentive to change.

The Beeching Report published on 27 March 1963 resulted in the decimation of rural railway networks and really put the final end to delivering pitwood by rail. By 1966 only a very few occasional dispatches were made from Thetford.

Many years later a sales representative from British Rail called at the Depot looking for business. He was slightly non-plussed when I pointed out that although quite a few of the larger collieries which supplied power stations did have rail links, they were to get coal out to the power stations and were totally unsuited to getting pitwood in. He also accepted that the fragmented nature of the business and the complexity created by colliery and product numbers really rendered the business unsuited to the British Rail of the day.

8.10.2 Road

See Appendices 8c, 8d, 8e, 8f.

Local road hauliers had been engaged in various aspects of work at the Depot from the very earliest days. Some had been hauling poles in from the forest, others were engaged to assist with handling and loading rail waggons to supplement Commission lorries and tractors. Turners of Willesden were employed by Celotex to collect their material with up to 15 of their lorries with specially built high basket sides being loaded daily. These lorries were a regular feature of the scene at BCD over many years, well remembered by all who worked there at that time. Other names remembered are Gerald Thompson, Betts and Sid Gentry but these people were engaged to assist with hauling into the Depot or haulage within the Depot and to the station for loading. From all accounts there were many more so that as the movement towards road haulage began from the early fifties there was no shortage of local hauliers to take the work on. All manner of vehicles appear to have been used but as the volume increased so the number of hauliers involved tended to decrease but those who remained tended to be better equipped. Included among these were Darkins who were and still are coal merchants from Stoke Ferry, Cherry Palmer from Sudbury, Eric Ashley now operating a sawmill in Brandon, Roudham Transport and Ken Peckham. Return loads were always a critical factor as they are in any road haulage enterprise and return loads of coal were a feature of the mid and late sixties when coal merchants in East Anglia were experiencing difficulty in obtaining supplies of coal presumably because of railway line closures post Beeching. No doubt this influenced Darkins involvement in pitwood haulage during this period.

One disadvantage to the early deliveries by road, again recalled by Jim Davidson, was that colliery managers, who tended to prefer imported pitwood, seemed to believe that pitwood delivered by rail was imported. Pitwood delivered by road was homegrown and not really welcome, a view which took much effort and many years to change.

The Beeching Report and the consequential rail closures left no choice but to deliver by road. By 1966 all deliveries were by road and certainly by the late sixties the road haulage had become well organised. The collieries supplied by BCD were divided into 12 separate geographical and administrative areas which were defined on a map.

Because such a wide range of vehicles were used, from rigid 8 and 10 tonnes to 40 foot articulated vehicles capable of carrying 20 tonnes, five weight bands were fixed for minimum loads of 8, 10, 12, 15 and 20 tons.

Tenders were invited for a 3-year contract to haul pitwood with a total of 60 prices required to cover all possibilities in weight and destination. Prices for second and subsequent years were negotiated on the basis of figures published by the Commercial Motor which showed Total Operating Cost per mile for a mileage of 1000 miles per week for each year.

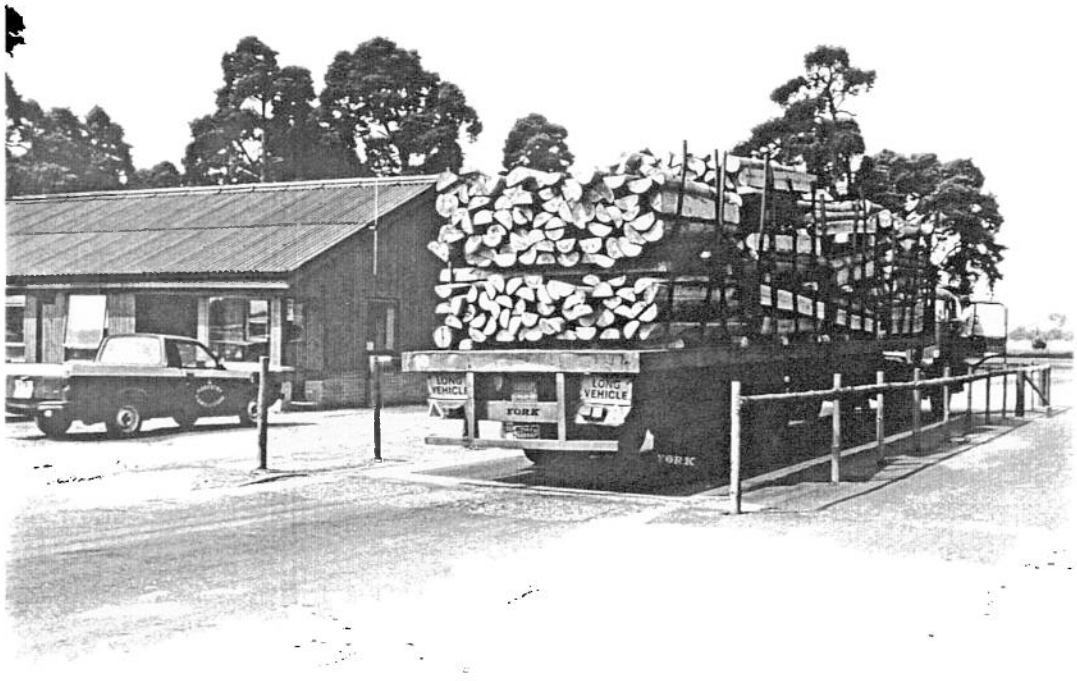


Plate 58 Weighing a full load of splits. Haulier was paid by the ton(ne) but other crucial information was derived from the weight. ie. weight per lift, moisture content and the facility to achieve maximum loads.

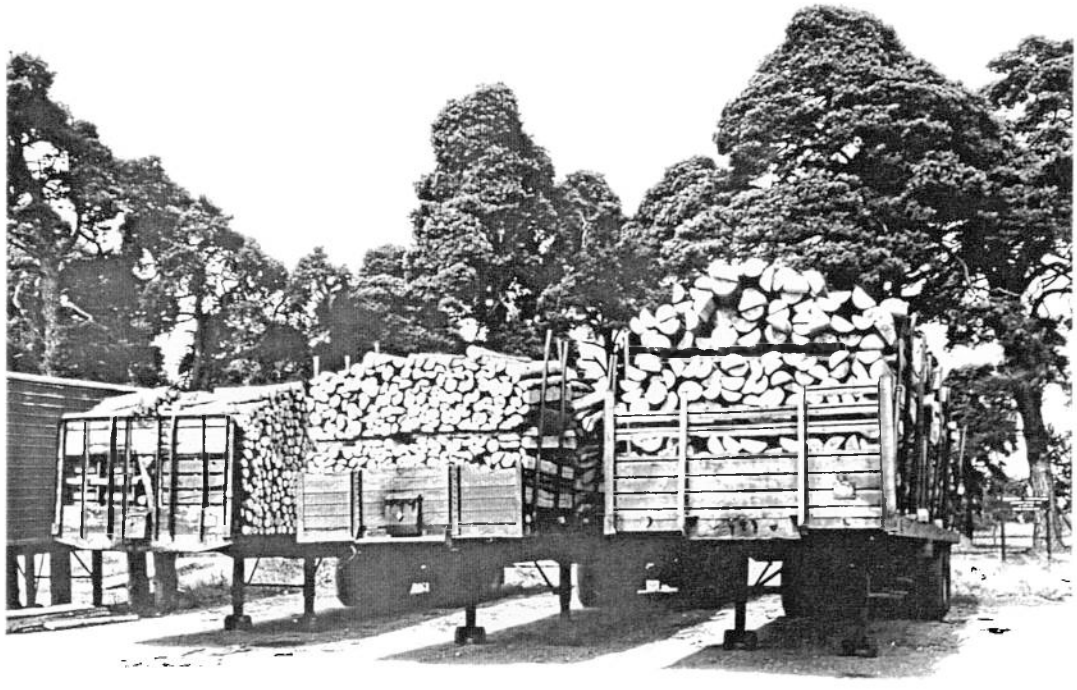


Plate 59. Pitwood loaded today for collection and delivery very early tomorrow. Note bearers between lifts to enable the colliery to offload using their slings.

It is not clear when these contracts started but Roudham Transport were successful in securing the 1970-1973 contract but I feel certain this was not the first. The earlier contracts were sometimes shared leading to problems in allocating loads between the hauliers involved. Inevitably, some runs paid better than others and allocating loads to the satisfaction of all parties must have been pretty well impossible.

During 1970 to 1973 Roudham Transport sub contracted a proportion of the work to Eric Ashley and possibly to Ken Peckham but even then the overall performance was not good. I can remember discussions during that period which indicated problems in maintaining an adequate delivery rate. In 1973 Ken Peckham was successful in securing the contract for the next three years and subsequent contracts up to October 1982. During this nine year period he build up a fleet of well equipped trailers and vehicles and a good working method developed.

The haulier provided a tractor unit complete with driver to act as shunter with sufficient trailers to ensure the loading in any day could be done without having to wait for trailers. Up to fifteen trailers were necessary to meet this requirement. Every trailer was equipped with bolster pin sockets securely welded into position at 18 inch intervals down each side, to allow for the maximum flexibility in catering for the wide range of lengths to be loaded. Each trailer also carried an adequate supply of bolster pipes and bearers. The bearers were supplied by the Depot for insertion between lifts to allow withdrawal of Depot wire rope slings and the insertion of colliery slings for offloading. Prior to the Health and Safety at Work Act Depot slings were left in for offloading and returned.

Loading would be completed and the trailers parked at the Depot where they were later collected for delivery by early the following morning. Most drivers preferred to leave in the early hours of the morning, arriving at the colliery by around 7.30am when the chance of a quick turn round was best. They would then arrive back at BCD by midday or early afternoon. They preferred to make the longest trips to the North East coalfield on a Monday having the opportunity to get a good start very early on Monday morning or even late Sunday evening.

Both Roudham Transport before him and Ken Peckham were able to arrange return loads of bricks from brickfields en route bringing them back into East Anglia. There is no doubt that Ken Peckham's success in developing this return load business and the distribution of the bricks to building sites throughout East Anglia contributed to his repeated success at tender for the pitwood haulage. The repeated success also allowed further development of the brick business so both were complementary to each other.

Peckham Haulage was also very much a family firm involving Ken Peckham, his wife Pat who handled the office work and his three sons who each had a lorry. Depending on the amount of work available other drivers were employed to cover a fleet of anything from four to seven tractor units excluding the shunter. Above that any extra work was put out to sub contractors.

The make up of loads depended on a great many factors including:-

a. Product availability - there was always pressure for popular sizes.

b. Colliery order instructions regarding timing of delivery.

c. Balance on orders (orders were almost never equal to one or any number of full loads especially when the order was to be spread over three months as they quite often were).

d. Level of hastened orders which was usually high necessitating delivery of part loads to keep as many collieries content as possible.

Mixed loads of different sized props and props with splits were common.

Loading instructions were agreed between forester and the Ganger responsible for pitwood production and dispatch daily. Any new orders, hasteners or suspensions were taken into account and cutting patterns for the following day were agreed at the same time. The cutting patterns for each production line were recorded on a blackboard in the forester's office. Loading instructions were written in quadruplicate, with copies for the loader, the haulier, the weighbridge operator who prepared all the dispatch documents and recorded dispatches. The final copy was retained for control purposes.

All loads were weighed both as a basis for payment to the haulier and because many collieries insisted that deliveries were weighed in order to check the average weight of lifts on the load.

At times it was necessary to make up a load with material for two separate collieries in which case each consignment was weighed separately and for many years the haulier was paid the nearest minimum load weight for each element. These were termed Double Drops and the two drops were virtually always in the same delivery area. They became more frequent towards the end of each quarter as more orders were completed leaving less scope for whole loads.

Demurrage was payable to the haulier for delays in excess of two hours as the NCB, in their contract with FC undertook to offload within two hours. Revised hourly rates were negotiated annually at the time of the haulage rate revision. Although no written agreement existed for the recovery of these payments from NCB this was generally possible although payment was quite frequently delayed and in many instances questioned.

Delays in offloading were quite frequent before self offloading and a special duplicated form was issued with the paperwork for each load or part of a load which allowed the haulier's driver to enter arrival and departure times over the signature of a colliery storeman or foreman. Even these were denied on occasions but eventually most claims were paid.

The same form was used to support diversion charges where a load was legitimately delivered to a colliery which then diverted the load elsewhere. These changes were also reimbursed by NCB but with equal reluctance. We preferred a standard charge where each colliery generally preferred a charge to be agreed for each incident but we were able to retain the standard charge throughout.

Diversions occurred quite frequently and the time taken to negotiate recompense individually would have been impossible as responsibility for payment lay with each individual colliery.

In September 1982 Roudham Transport were successful in regaining the Contract for the next three year period. Comparison between tenders could realistically only be straight comparison between the rates offered for each weight band by area.
To judge how the overall cost might compare over a year's haulage depended, of course, on the proportions delivered to each area and the distribution of load weights throughout the price bands. Any comparisons made in this direction had to be mainly subjective and in 1982 the rates tendered by Roudham Transport were clearly lower overall than any of the other tenders. Previous experience with the Company prompted caution before signing the Contract and it was agreed that I should visit the Manager to discuss working arrangements and our minimum requirements regarding equipment, service and paperwork. The items discussed and agreed were recorded in detail in a letter to the Company. This letter, presented as a schedule, became a permanent feature included with all future tenders.

In addition, a licence to park vehicles at the Depot was drawn up for signature along with the contract. This had been the intention no matter who was successful as in the past, use of the Depot for parking had just developed with no really effective means of control. No payment was involved but permission was conditional on holding the haulage contract. This licence also became a permanent feature of the pitwood haulage contract package in all future tenders.

The precautions taken proved invaluable as problems arose almost from the outset. Equipment was well below standard and unsafe, the service was far from satisfactory and even the paperwork left something to be desired. The need to record incidents quickly became very obvious and a daily log was maintained recording all incidents considered to be contrary to the terms of the contract and the agreed working arrangements contained in my letter. By the beginning of December 1982 the situation had deteriorated to the point where termination was being seriously considered.

During the early part of the new year the National Coal Board started to complain about reduced efficiency stating that "Brandon Depot is not as efficient as it used to be and can no longer be relied on to make a delivery the day after loading and it seems that anything that is hastened takes an extra day to deliver".

On 11 March 1983 I wrote formally listing their shortcoming and giving notice that unless these shortcomings were remedied within 14 days the contract would be terminated. This course of action was specified within the terms of the contract.

No improvement followed and as a result a meeting was arranged between Conservator, R Hewitt, Assistant Conservator, M Dinning, Mr Lawrence, Manager Roudham Transport and myself at the Depot on 25 March. It was finally decided that the contract would be terminated on 30 March 1983 subject only to any significant proposals which might be sent to Mick Dinning by 28 March. In the absence of any such proposals Mr Lawrence agreed by telephone on the 28th that termination would be the appropriate solution in the circumstances and a letter terminating the contract on 30 March was sent that day.

The year long strike followed starting in March 1984 and finally ending in March 1985. The strike presented a great many problems not least of all that deliveries were reduced to just over 14000 cubic metres compared with well over 23000 cubic metres in the previous year.

Each colliery had to be contacted in an attempt to ensure that delivery was practicable in relation to the activities of pickets and that the colliery would accept delivery. Despite these precautions many drivers experienced great difficulty and were subjected to a great deal of verbal abuse and threatened violence but they kept going throughout. Surprisingly perhaps, no pickets appeared at the gates of the Depot, so we were spared that problem, not least of all I believe because of the responsible and moderate attitude adopted by the Depot workforce. I also have good reason to believe that this was in the face of considerable pressure from within the Transport and General Workers Union.

During the period of the strike I think it certain that a very high proportion of the total volume of pitwood used was supplied from Brandon Depot. Once the strike was over the closure and amalgamation of pits which was part of the general rationalisation proposals which lead to the strike, were all set in motion. This resulted in a major programme of stock adjustment and reduction which delayed the long awaited upturn in demand.

Another tender was due in September 1985 but the uncertainty regarding likely future demand prompted the decision to extend the current contract for a further year.

8.10.3 Self Off-loading - Loose Pitwood

For some years, British Coal as they had then become known, had been increasing the pressure to consider delivery using lorries equipped with hydraulic crane and grapple. This had partly come about, I am sure, because pitwood suppliers in the Midlands already used vehicles equipped in this way because they made return trips bringing in poles and sawlogs for conversion. The effect of the reduced payloads due to the weight of the crane was less significant for these companies over the much shorter distances travelled.

The contract between British Coal and the Forestry Commission clearly stated that British Coal were responsible for off-loading but during discussions they refused to accept that extra cost was involved in using self off-loading vehicles, a view not shared by either Ken Peckham or FC staff.

Finally, it was agreed that Ken Peckham would undertake some trial loads using a vehicle equipped with hydraulic crane and grapple. The ideal rig was a 40 foot triaxle trailer giving maximum payload with a centre mounted crane because loading all short products no crane had the reach to operate either cab or rear mounted.

Ken Peckham had been delivering bung wood and off-loading by crane using a vehicle equipped to handle palletised bricks, at a charge of £60 per load. A figure of £50 was finally agreed for the trial. The trials went well and it was obvious that in time all deliveries would have to be self off-loaded.

Further discussion virtually ended in an ultimatum that 50 per cent of all deliveries would be self off-loaded by 31 March 1987 and all by 30 September 1987. This requirement was included in the tender details advertised during September 1986.

British Coal had expressed reservations about our haulage costs and it was agreed that they should nominate a number of haulage companies for inclusion in the list of companies invited to tender which was already fairly comprehensive. They had been very reluctant to pay the extra £50 per load for the trials and continued to maintain no extra cost could be justified.

Six tenders were received of which only 2 were from a total of 8 British Coal nominees. The level of interest overall was much as in the past and generally tenders were from hauliers who knew the work and the routes who also had potential "back loads", reflecting perhaps the specialised nature of the work and the equipment required.

In the event Ken Peckham was again successful having added 6.6% to existing rates for flat bed work and a further 10% for self off-loading.

By October 1987 all deliveries apart from the shortest small diameter props were self off-loaded but already the pressure was on to supply all material bundled.

8.10.4 Bundling

The sequence of events and the timing of the move towards bundling is fully covered in paragraphs 8.7.8, 8.7.8.1 and 8.7.8.2. The development of a bundling system started early in 1987 and by the end of the year a high proportion of the pitwood supplied was bundled. Bundle size was such that a bundle, no matter what size the individual products were, could be readily handled by a grapple. The trailers were loaded just as with loose props except that bearers were generally no longer necessary, which meant that the trailers had to be equipped exactly as before.

There were very obvious benefits to British Coal but there was insufficient time before closure to fully develop the Depot system in order to assess its potential for savings in cost. I believe there would have been benefits ultimately but the extra costs incurred through self off-loading and bundling were well in excess of the extra payment agreed, £1 per bundle.

8.10.5 FC Vehicles

For a short period in the late sixties; early seventies trial deliveries using Forestry Commission articulated lorries were made. I think it quite possible that these trials may well have been at about the time Roudham Transport were not performing well during their earlier contract period, possibly 1970 to 73. The articulated units were originally intended for bulk delivery to the Weyroc factory and were loaded by small forwarders, the Highland Bear and Wartsila. The closure of the Weyroc factory resulted in their use for delivery of poles to BCD and it may have been at this time that delivery of pitwood was tried. In any event the trials were fairly short lived.

As for as I can gather the problem was mainly one of hours where FC drivers were reluctant to work long hours and I believe there were quite frequent instances where a driver ran out of permitted statutory hours necessitating a journey with a relief driver to bring the vehicle back. I have to say that I never heard tell of such an incident arising among any of our haulage contractors!

8.10.6 Haulage Costs

In 1936 D W Young (14) suggested that railfreight charges for distances within a radius of 70 to 100 miles would be 10 to 15 shillings (50 to 75 pence) per ton! The point was also made that well seasoned props (6 months) delivered in place of unseasoned could increase the volume per ton by 50 to 70 per cent.

Backhouse and Nimmo in 1956 (1) reported that "Pitprops which are mostly sold direct to the National Coal Board are increasingly being dispatched by road owing to the high railway freight charges. For some of the longer rail hauls for which only a part of the freight charge is recoverable from the National Coal Board, as much as 1 shilling per cubic foot (approximately £1.35 per tonne) may have to be borne by the Forestry Commission".

In the twelve months April 1983 to March 1984 a total of 23,500 cubic metres of pitwood was delivered at a total cost of £178,000 or £7.57 per cubic metre. By 1986/87 the cost per cubic metre had risen to around £10.00. Seasoning remained a very critical factor and seasonal variations were inevitable. For instance, during April 1983 the cost was £8.10 where in August it was £6.07 per cubic metre indicating he very significant benefits to be gained from accumulating stocks of peeled poles early in the summer.

In 1970 when I first came to work in Thetford a determined effort had been made and was continuing to establish good stocks of peeled poles in order to reduce haulage costs. A letter from Bernard Hughes, Assistant Conservator Harvesting and Marketing to David Perry, District Officer Thetford, dated November 1969 states that in September 1969 haulage cost was 1s 1d per Hft (£1.50 per m3) compared with 1s 6d per Hft (£2.08 per m3), the average for the previous year. He continued that even with the new haulage rate in October the figure remained at 1s 1d with a vol/weight ration of 39.9 Hft per ton. The final comment was "This is extremely good and it emphasises the need to season stocks which is the biggest factor in making pitwood pay at Thetford.

The cost of haulage regularly represented between 20 and 25 per cent of the total budget excluding the cost of the raw material supplied by the forest and was, therefore, a major factor when considering profitability.

8.11 Work Study

Throughout this history, frequent reference has been made to Work Study and the Forestry Commission Work Study Branch which was first instituted in the late fifties. By 1960 it was well established with a strong team stationed in Thetford. From the outset the Depot figured prominently in their activities with most of the operations current at that time being studied during the period 1960 to 63 providing a comprehensive basis for fixing piece work rates and bonuses.

At the same time thought was given to increased mechanisation and method study an ongoing task which started with the Kingslaw Peeler, quickly followed by the Cambio Peeler in 1963 which was the first real break through. At the same time lorry mounted cable cranes were giving way to the new hydraulic cranes with grapples, again like the Cambio Peeler, an import from Sweden.

During the sixties many FC staff visited European and Scandinavian countries particularly Sweden bringing back new ideas and working methods applicable to conditions in the United Kingdom. After the initial surge of activity during the early sixties few new initiatives of any consequence occurred until 1970 when Graham Hobbs began to take the initiative with Work Study to set about mechanising crosscutting and improving the Cambio Peeling. This initiative gave rise to increased Work Study involvement culminating in the preparation of the Phase I, II, IIa and III reports relating to the redevelopment. These were prepared over three years from 1976 to 1979 when the decision to proceed with the redevelopment was taken and the Treasury authorised the necessary expenditure. Once completed Work Study were again involved in Method Studies prior to further studies aimed at producing Output Guides for the new Peeler Complex and the Sawmill.

The miners' strike followed almost immediately on from the completion of training and consolidation for operators in both the peeler complex and the sawmill. The strike and its after effects lingered for some considerable time, in fact, normality never did return and this resulted in difficulties and delays in completing the studies. Both output guides, one for the peeler, the other for the sawmill were completed in draft form but subsequent events leading to closure prevented their use. The list of Work Study Reports, Standard Times and Output Guides specific to Brandon Depot clearly indicates a high level of involvement and is a measure of the contribution made by Work Study throughout the twenty eight years of their joint existence from 1960 to 1988. (app 8g)

9. ORGANISATION AND MANAGEMENT

For many years Thetford Forest was organised as 2 Districts, north and south of the Little Ouse River. Although the Depot was situated north of the river there always seemed to have been very strong connections with Santon Downham which is south of the river. From the outset the rather unique nature of the Depot operation tended to set it apart so that there was a Forester appointed as Manager within a very short period of the Forestry Commission taking over in 1946. Jim Davidson recalls being posted to Thetford as assistant to J W Anderson, East Conservancy Sales Officer, who worked from Thetford. He recalls being sent to work full time at the Depot until he succeeded Anderson on his move to Cambridge. Jim Davidson also recalls that there was a proposal to turn the Depot into a separate commercial organisation with a Manager who was to be paid a small salary plus a share of takings. This did, in fact, take place and a man named Wrapson was appointed but, as Jim Davidson recalls, "The idea of a separate commercial company was dropped before it got very far and so was Wrapson". He continues to say "An important figure who had an important part in the development was a Forester called George Button who had assisted Anderson but remained at Thetford when he was sent to Cambridge. Jim Davidson had by this time been appointed to one of the 2 Thetford Districts which included the Depot.

George Button was, therefore, the first Manager at the Depot and I would guess that he probably had at least as much autonomy as a Beat Forester and almost certainly more.

During this time the lorries were managed from the Workshop at Santon Downham and the Creosote Plant was a self-contained unit.

George Lawson replaced George Button in 1955 and probably assumed responsibility for all but one or two general duty lorries which remained the responsibility of the Workshop Manager at least until 1965.

This also meant that George Lawson organised all customer loading and organised all depot input which meant that he virtually controlled customer supply from that time; both in the depot and the forest.
By 1958 Thetford was managed as 2 Districts, North and South of the Little Ouse river with J W Anderson, District Forester in the North and Charlie Redford in the South.

By 1966 Thetford had become one District with 3 functional Chief Foresters, this grade having been created along with Assistant Forester and Head Forester in 1965. The 3 Chief Foresters were Forest Management, Charlie Redford, Havesting, Ernie Poll and George Lawson, previously Depot Manager, became Chief Forester Marketing with responsibility for the Depot included. All 3 were to work from the District Office at Santon Downham.

Responsibility for the lorries and the Creosote Plant was transferred to Ian Campbell who had been appointed as Manager to succeed George Lawson having moved up from the New Forest.

It was in 1967 that the new administrative buildings at Santon Downham were completed. Obviously, they were planned and built to house the new centralised management team but George Lawson was reluctant to leave the Depot Office having worked there since 1955. There is a story which suggests that a certain Forest Officer, when informed of George's reluctance to move, jokingly set light to papers pinned to the office wall suggesting he might be smoked out. Unfortunately, the flames spread more rapidly than expected and Ian Campbell was left to explain the charred wall! George did finally move to Santon Downham but he kept a foot (and a garage) firmly planted in the Depot as long as he was responsible for Marketing. In fact, his garage remained at the Depot right up to closure.

By 1966 I think the numbers of forest beats had been reduced from 17 to 9 and the organisation remained that way until 1972 when they were further reduced to 4; Swaffham, Santon, Bridgham and Kings. Chief Foresters assumed territorial responsibility, one to each beat. John Webster came in to take Swaffham, Ray Young, who had succeeded Charlie Redford on Forest Management, took charge of Santon while Ernie Poll went to Bridgham and George Lawson went to Kings where he was soon replaced by Steve Chapman on his retirement.

The offices were at High Ash (new), Lynford Cross (modified existing), East Wretham (new), and West Stow (modified/extended existing).

The relationship between the Depot and the 4 beats in this new organisation probably did more than anything else to confirm the Depot as a unit in its own right.

Previously, the Manager had prepared a separate budget and to all intents and purposes it ran as a self-contained unit which was dependent on the forest for its raw material as a customer.

This relationship and the question as to how the input into the Depot should be accounted for exercised many minds throughout the whole 42 years of the Depot's existence.

Again, Jim Davidson writes "One major task followed a visit by Lord Robinson about 1951. He called for the produce accounts of each of the Thetford beats and that of BCD. To his horror he found that, although BCD made a handsome profit, all the beats ran at a loss. The transfer charge for timber delivered to the Depot was clearly something to be questioned but he did not stop there. We had to carry out a very full costing of all alternative methods of doing each stage of preparing props from felling to dispatch. For example, peeling could be done at stump with poles stuck up in adjoining trees, in piles at rackside, as poles in the Depot or as props.

Each variant affected other stages, and the object was to find the best sequence of choices over all. Forester Bruce, then in what was known as Cost Research Branch at HQ, was employed for about 18 months on this with his 2 assistants. The results were interesting but did not suggest any substantial change from established practice. The time was coming for more radical changes by mechanisation; but this had to wait a little longer till component element of a mechanised production line would be more fully developed."

Author's Note: "a little longer" was, in fact, to be 20 years when, in 1971 the Pendulum line started up although the Cambio Peeler did arrive in 1963 still 12 years later. As part of the 1972 reorganisation the lorry fleet as allocated among the 4 beats but notwithstanding this the Depot annual budget was at least equal to that of any of the 4 beats and ongoing representations were made through the local branch of the Civil Service Union to get the Depot upgraded to a Chief Forester chargeship. This was finally achieved in 1979 and I was appointed to the post on 1 October 1979 by which time the redevelopment had been authorised and work had just started.

In 1982 The Management Structure Review Group under the chairmanship of R Hewitt, then Conservator, East England, was appointed. Their report presented later in the year, although not adopted in its entirety, did result in major changes.

The proposal to amalgamate the Forester and Forest Officer classes was adopted by the proposals to retain the 4 tier structure, ie Forests, Districts, Conservancies and Headquarters, was rejected in favour of 3 tier. Some 70 Forest Districts were to be formed, Thetford being one. The new Thetford Forest District continued to have a Principal Forest Officer as Forest District Manager with 3 functional Chief Foresters (FO II) assisting him. One Harvesting and Marketing, one Forest Management and myself at BCD. This was later modified after a staff inspection by adding Deputy Forest District Manager duties to the Harvesting post and upgrading it to FO I. The 4 Thetford Beats were reduced to 3, North, Central and South with Wensum retained as an outlier. Each of the 3 beats were functionally organised with 2 teams of supervisors lead by a Head Forester (FO III), one Harvesting and Marketing with 2 Foresters (FO IV) the other Forest Management with one Forester.

All office accommodation was centralised by extending the District Office accommodation built at Santon Downham in 1967. This took some considerable time during which the beat staff survived in Portakabin accommodation situated in the Workshop yard because the Conservator had insisted that all 4 old beat offices must be closed in order to centralise administration. Some redundancies were necessary among clerical staff but this was achieved on a voluntary basis.

Recommendations were also made regarding Conservancy and Headquarters reorganisation but another Conservancy and Headquarters Review Group was set up which finally recommended reducing the Conservancies to 7, 3 in England,1 in Wales and 3 in Scotland.

The principal change at Headquarters was to divide responsibilities at full time Commissioner level between Private Forestry and Development and Operations which was to include silviculture and Harvesting and Marketing. This principal was to be retained at Conservancy with an Assistant Conservator Operations and Principal Forest Officer responsible for Private Woods and the Environment.

The proposed changes at Forest and District were to be in operation by 1 April 1984. At the same time payroll was to be computerised with 1 April 1985 as the date for the start up of FAMIS, the computerised Financial Accounting, Management Information System. The payroll system was to be Forest District based on Micro computers but FAMIS, although still based at Forest District, was to be linked to the main frame computer at Headquarters in Edinburgh.

So where did Brandon Depot stand amongst all this reorganisation? At first, there was a great deal of uncertainty but during a visit to Thetford by the Director for Harvesting and Marketing, Mr Gwyn Francis, on 27 October 1983, discussions took place at the Depot to consider how best to proceed now that the redevelopment was virtually completed.

It was agreed that the Development Steering Group which had been a project planning and progress chasing group, should be reformed as a small Board of Management with the main aim of servicing the high capital investment to best effect. Board membership was to include an accountant at least for the first year.

It was also agreed the Depot should continue to be a separate profit centre with its own budget and accounting but as a part of, and not separate from, the Thetford Forest District.

Although something of a digression at this point it is interesting to note other comments reported during these discussions.

"Depot Accounts Mr Francis pointed out that BCD, like Hopton Sawmills (with a similar volume taken from FC forests), is a long term, steady, reliable customer and this justified the negotiation of slightly lower wood prices than are realised competitively. This "discount" should be recognised in the trading accounts. He also reminded Managers that the 1979 appraisal valued timber input at cost of production, and so any 'reconstruction' of the appraisal incorporating actual costs should be prepared on the same basis. Separate commercial trading accounts would continue to be prepared each year for management use, as distinct from reconstructed Internal Rate of Return appraisals".

Although the situation continued to be uncertain I was confident that ultimately this had to mean that the Depot would function as a Cost Centre with all the computer facilities planned for Forest Districts each of which was a Cost Centre. My confidence was based on the simple fact that the system's design demanded a Cost Centre number in order to process accounting data for a unit separately. This being the case it was very unlikely that staffing at Forest District Office would be adequate to process all the Depot data, neither would it make any sense to attempt to do so.

By degrees the situation developed until it was finally accepted that all the computer equipment would be essential.

There were staffing problems too which were only resolved through persistence in pursuing a just grading for the clerical posts.

Once all this was finalised from 1 April 1985 the Depot functioned as an individual Cost Centre with full computer facilities including printer so that it stood alone in terms of pay, accounting and administration. At the same time the Manager remained responsible to the Forest District Manager at Thetford. This was considered essential because of the close liaison necessary between the forest as supplier and the Depot as customer.

This last principle was emphasised by Management at Forest District and Conservancy level prior to a Staff Inspection at Thetford including BCD in September 1985. This was one of a series of Inspections aimed at ensuring that both staffing complements and the grades within them agreed at the reorganisation were correct. (See Appendix 9a.)

In his report relating to BCD the Inspector stated, "Brandon Central Depot office based staff all have demanding roles in an area of work that is unique in the Forestry Commission. It is an area that requires a good deal of team work, as each post is very dependent on the other for the accurate compilation of records and management information".

Chief Forester

In grading this post we gave careful consideration to the situation of Brandon Central Depot in the Commissions organisation, mainly because the Depot relies on Thetford to provide its timber and therefore has strong links with Thetford Forest District. We concluded that the needs of the Depot are best served by its being part of the Forest District organisation. Had we concluded otherwise, it is likely we would have recommended its upgrading to FO I, however, as the Forest District Manager (PFO) is ultimately responsible for BCD we consider this post is presently correctly graded a Chief Forester/FO II but would stress that we consider it to be a very good post requiring a high degree of qualitative, quantitive and analytical input.

In respect of other members of staff the report recommended the Foreman's post be upgraded to Forester, the weighbridge operator from Forest Craftsman to Ganger with a further review in the light of any later computerisation. The final recommendation was that the clerical officer complement be increased from 2 to 3 in order to reduce the high level of overtime worked.

Publication of the Staff Inspection Report was considerably delayed in that it finally surfaced very late in 1986, more than 12 months after the inspection. Observations and comments were still being made on the recommendation when the Commissioners Operations, Mr David Foot, instructed Director Harvesting and Marketing, Mr Steve Quigley, to set up a Working Party to investigate the future of Brandon Central Depot. The Working Party was appointed by letter dated December 1986 with the end of May 1987 set as the deadline for the presentation of its report. Although the Staff Inspection Report had firmly confirmed the organisational status quo, the recommended staff changes never did take place due to this not altogether unexpected turn of events and all that followed, finally ending in closure.

10. ADMINISTRATION

As far as I can ascertain, all administration tended to be in-house even from the earliest days. There was certainly one clerk in 1952 and 2 by 1956.

The installation of the weighbridge in 1959 must have been a great improvement as this resulted in the Depot becoming the central recording point for the movement of produce in from the forest and out from the Depot to customers.

Previously, input had been quantified by pole count and average volumes, pitwood having been weighed at Brandon Station and Celotex, Bowater and PIM were all sold by weight. The benefits of having a weighbridge on site were considerable but it must have added significantly to the administrative task. The main burden was the sheer mass of figures and recording which resulted from producing such a vast number of products. Production tallies, pay documents, stock ledgers and dispatch documents together amounted to a formidable task. Stock control had to be exercised on a daily basis and this for 150 to 200 sizes of pitwood alone was sufficient to keep a clerk fully occupied accounting for production and dispatch daily. Add to this frequent enquiries from customers and visitors and frequent telephone calls, all combined to make for a very busy office.

In 1966 Thetford Forest became a single District centred on the new administrative building at Santon Downham completed in 1967. As part of the resulting reorganisation, George Lawson, who had been Depot Manager, became Chief Forester Marketing and his responsibilities continued to include BCD. At the same time responsibility for the Creosote Plant moved to the Depot. Ian Campbell moved up from the New Forest to become Depot Manager, Mick Cheesewright moved into the Depot as Forester assisting Ian Campbell and Terry Breed moved into the Depot as Forester responsible to George Lawson for Transport and the Creosote Plant. These were not the original intentions which only lasted a month before common sense and practicalities prevailed and the organisation as described was instituted. George Lawson had a marketing office in the new building at Santon Downham but still spent a great deal of time at BCD.

The consequence in terms of administration work at BCD must have been considerable. There were 17 lorries at that time and Ian Campbell recalls the total workforce as being between 70 and 80 including clerical staff. Pay alone for a staff of this size must have been quite a task and, of course, all produce movement from the Forest District to customers or to the Depot and from the Depot to customers was controlled at the Depot.

This situation continued until 1972 when further reorganisation resulted in the District being split into 4 territorial chargeships under Chief Foresters who each assumed total responsibility for their beat, including transport and loading, the lorry fleet of around 10 by this time being allocated between them as were the Volvo loaders.

It is not clear how budgetting for the Depot was handled in earlier years but certainly by 1972 the District Budget was comprised of 4 separate beat budgets and BCD. The departure of the lorry fleet and loaders and the closure of the Creosote Plant resulted in a reduction of one Forester from the Depot complement but with increasing throughput and, perhaps a greater degree of autonomy brought about by the return to a beat system of management, admin requirement remained high. By 1979 there were generally 3 clerks and a weighbridge operator which remained the level required for survival up until closure, although it was not always possible to maintain this level for various reasons described elsewhere (see para 4.2).

10.1 Computerisation

On my arrival as Manager in October 1979 at the start of the redevelopment programme, it soon became apparent that the plans to build a Depot capable of handling up to 40 percent more volume did not include any provision nor even any consideration as to how the resulting extra processing was to be handled in the office. This point was raised through the Development Steering Group and it was accepted that much of the routine ledger work was eminently suited to be handled by computer and that attempts would be made to get something under way. So started seven frustrating years of effort by many people through various channels and agencies, all of which finally came to nothing. The first approach was made to Organisation and Methods Branch (O&M) in 1980 and as a result Harry Grassick visited the Depot to assess the feasibility of computerising the existing method of control of stock within the Depot and as a spin off, assist management with the provision of control prints and information relating to the internal movement, production processing and contractual supply of wood materials and products. The report was presented towards the end of June 1980 (77) and was discussed at a meeting held at Cambridge in October 1980, the notes on which appear below:

"BCD MODERNISATION

NOTES ON A MEETING WITH O&M 20.10.80

Present:- Conservator Mr R Hewitt
ACH&M Mr M Dinning
CME Mr J Maiden
A&FO Mr W Wittering
Mr R Smith
Mr F Foley
Mr H Grassick

Mr Grassick's report of 26.6.80 on Computerisation of Stock Control at BCD was considered. The following main points emerged.

1. Conservator expressed concern at the high cost of Mr Grassick's proposals, £20-25000 plus software.

2. Direct stock control by the saws and weighbridge should be considered. A basic feasibility study by O&M is required. Mr Foley said it would be 1981/82 before he had the resources available to do it.

3. Budget provision must be made in 1982/83 budget which gives a time limit of July 1981.

4. CME should clear the Computer Weighbridge connection with Mr Grassick.

5. Mr Foley mentioned the possibility of an FC "in-house" computer and said he would keep E(E) in the picture. This would not necessarily affect computerisation of stock control at BCD which would most likely be a "stand-alone" system.

W O Wittering
20.10.80"

It is interesting to note Mr Foley's observation regarding only the possibility of an FC "in-house" computer at this time, October 1980!

The next positive step came in April 1982 when Bill Wittering, Administration and Finance Officer at Cambridge, arranged a 100% grant with MAPCON (Department of Industry) to cover a feasibility study. A consultancy acceptable to MAPCON was found, Nine Tiles Information Handling Ltd of Waterbeach, and they were contracted to carry out the study which they did, presenting their report in August 1982 (78). A prerequisite of the grant was that it was necessary to demonstrate a link between proposed use of computers and increased production, whereas our main interest was to use computer technology to process data in the office. The cost of this study fully covered by grant was £3,000.

At the same time, April 1982, initial proposals were made for a national Forestry Commission Produce Dispatch, Control of Sales, Produce Invoicing, Debtors' Ledger, Debt Control and Credit Control package which ultimately became the CCISP package.

In November 1982 the Forestry Commission Automatic Data Processing (ADP) Steering Group at Headquarters authorised contact with CCTA (Civil Service Technology Advisors) in Norwich with a view to implementing the Nine Tiles recommendations but only in as much as it applied to office procedures, excluding proposals for automatic data transmission from plant to office. Contact was made and at least one visit from CCTA staff took place but the Forestry Commission Computer Branch was set up on 1 April 1983 and at a meeting of the Information Technology Steering Committee held on 17 June 1983 a complete embargo was placed on any further work or consultation regarding computerisation at BCD until Harvesting and Marketing Division's specification for the Commission's Debtors' Ledger/Produce Recording system was complete. Once agreed, BCD proposals could be considered for compatibility.

In the meantime, Bill Wittering commissioned a young clerical officer working at Santon Downham, Brian Llewellyn, to prepare a schedule of BCD paperwork as a project thinking this might be of value as a starting point. The final project was presented in August 1983.(79)

In May 1984 Data Processing Division arranged for Bob Spence to spend a period of detached duty to investigate the possibility of finding a cheap short term solution that would ease the workload in the Depot. Bob spent a considerable period of time during July 1984 investigating and working up possible systems using BOS Autoclerk and finally presented his report in October 1984.(80)

Little came of this as with all previous reports and in April 1985 Data Processing Division wrote suggesting the initiative for further work lay with Harvesting and Marketing Division. They also commented that suggestions put forward by Dr Bushell, the Management Accountant appointed as member of the Depot Management Board, might impinge on the redesign of the FC accounting system which was in progress at that time.

During a visit to Thetford which included BCD in March 1986, Mr Gwyn Francis, Commissioner Operations, discussed the lack of progress and it was agreed that Mr David Foot, Director Harvesting and Marketing should investigate progress between Data Processing Division and Harvesting and Marketing, with particular reference to stock control linked to CCISP.

Between March and October 1986 a number of meetings were arranged between local staff, Conservancy staff and H&M Division at Headquarters, namely Steve Quigley and Steve Atkins, and as a result in October 1986 H&M Division sort authority from the Commissioner Administration and Finance, to ask Autofile (Software) Ltd to carry out systems analysis and design for the work needed to handle pitwood orders from British Coal for Brandon and Wentwood Depots. Authority was granted and the contract placed at a cost of £10,200. The final report, presented in March 1987, made recommendations which would have cost around £50,000 to implement but by this time the future of the Depot was very much in the balance, being under consideration by the Working Party appointed at the start of that year, with their report due originally by the end of April. This was delayed until the end of June but inevitably no further action took place regarding computerisation.

Throughout, the Depot had been fully involved with Payroll and FAMIS (Financial Accounting and Management Information System) with Depot based equipment with direct link to HQ but British Coal products and ordering system proved too complex for the standard CCISP system. Invoicing was finally handled on CCISP at Conservancy Office but other aspects of the package were unworkable in relation to British Coal transactions.

All production dispatch and stock control recording continued as a manual system right up to closure but not for the want of trying to find a better way!

11. REDEVELOPMENT

During 1976 Brian Holtam, Conservator East England since September 1974, commissioned Work Study to conduct a Study of BCD with the objective of "determining the layout system and method which was most effective and which yielded the greatest throughput of material per unit expenditure for all specifications of product while maintaining flexibility and paying proper regard to safety, worker welfare and job satisfaction as well as security and environmental factors".

It was the Conservator's view that the evolution of the Depot from 1946 to date, which had not been systematic, and the existing situation resulting from ad hoc decisions and a lack of investment and programme commitment, really could not continue any longer. Developments had taken place but in isolation when resources became available and credit was particularly given to local staff for their creative improvisation; but the way forward, if indeed there was to be a future, must be with much more radical and planned proposals.

11.1 Investigations and Reports

11.1.1 Phase One Report (App. 11a)

This report prepared by the East England Work Study team led by Richard Smith was presented in May 1977.(81) It was based on research and studies carried out in the Depot between December 1976 and March 1977 and its objective was that set by Brian Holtam as stated in para 11.

11.1.2 Phase Two Report (App. 11b)

As a result of the Phase One Report a Working Party was set up to examine its findings and to recommend a new structure which would overcome the existing problems and fulfil the various objectives set down. The Phase Two report resulted from the deliberations of the Working Party, the members of which were:

M Dinning	- Assistant Conservator, H&M, E(E)
J Kellie	- District Officer, I/C Thetford
K Buswell	- District Officer, H&M Thetford
G Cook	- Conservancy Mechanical Engineer, E(E)
G Hobbs	- Head Forester, I/C Brandon Central Depot
E Portlock	- Area Land Agent
R Smith	- Work Study Officer, East England Work Study Team

Again, prepared by Work Study the report was presented in March 1978.(82)

11.1.3 Phase IIA Report (App. 11c)

At a meeting held on 20 June 1978 between the Brandon Depot Working Group and Headquarters staff, it was agreed that further information should be provided to develop and amplify certain aspects of the Phase II Report. This amplification was to include the following main points.

a. Demand

Investigation into future NCB pitwood requirements. Also the view of woodwool firms and technical experts (FPRL and TRADA) to be sort on future trends in woodwool usage.

b. Supply

A table showing forecasts of the raw materials available from Thetford and North Norfolk District to be provided.

c. Depot Working

The advantages of Brandon Depot working to be determined against forest working for pitwood.

d. Machinery Costings

The basis of the machinery costings in the Phase II Report to be recorded.

e. Appraisals

New appraisals to be prepared on the basis of:-

i. Present layout and throughput plus required HASAWA improvements, with machinery replaced where due.

ii. Improved layout as in the Phase II recommendations with increased throughput on 2 shift, one shift and one shift plus overtime working.

This constituted the Phase IIA Report which was completed 4 months later in October 1978.(83)

While this was being prepared 3 members of the Working Group, Mick Dinning, Richard Smith and Graham Hobbs, spent from 16 to 21 July visiting German sawmills and a sawmill equipment manufacturer in order to discuss German experience in the equipment and management of roundwood handling and conversion depots. Particular information was sought regarding machine selection, layout and performance and on wood handling systems with a view to the development of Brandon Depot.(84) App 11d.

In August 1978 a team of landscape consultants visited the Depot site during a visit to Thetford and Clifford Tandy's report dated August 1978 provided guidelines for the Working Group.(85) (App. 11e).

11.1.4 Phase Three Report

This final report dated March 1979(86) (App. 11f) described the detailed requirements of the redevelopment programme to handle up to 70,000 m3 of roundwood, embracing the principles previously outlined viz: a more efficient layout, contained within a ringroad; a unidirectional material flow using single shift working; increased safety provisions with ergonomic benefits and improved operating conditions. The report was in summary form with detailed programmes, plans and budgets in the appendices. The proposal was that the redevelopment would take place over 3 years commencing 1979/80.

11.2 Implementation

By November 1979 the proposals had been approved and Mick Dinning, Assistant Conservator Harvesting and Marketing, had been designated Project Manager.

11.2.1 Organisation

Direction of implementation was to be through a number of Working Groups:-

a. A Conservancy Group comprising Conservator, A/Cons H&M, CLA, A&FO and CME to meet roughly monthly in Cambridge, its functions to be (a) advance planning, and (b) progress control. The A/Conservator (harvesting) at HQ - Mr Taylor - to be invited to each meeting of this group, and it was expected that he would be able to assist in maintaining a personal liaison with staff of HQ Divisions concerning the scheme.

b. A Steering Group chaired by A/Cons H&M normally in Santon Downham. Members and their responsibilities to be:-

i.	ACH&M	Project Manager, responsible for planning, budgetting, execution and control. Report to Conservator.
ii.	PDO Thetford	(Normally with ADO H&M Thetford.) Responsible for continuity of production. Maintain communications with all depot staff.
iii.	CME	Prepare peeler unit and sawmill unit specifications for tender, and supervise installation contracts. Deal with Eastern Electricity Board (keeping ALA informed) on all aspects of electrical supplies/ installations. Liaise with purchasing branch over peeler unit and sawmill unit tenders.
iv.	CCE	Responsible for all civil engineering works including car parking areas etc.
v.	ALA East	Responsible for consultations on planning aspects with the local authorities. Prepare building designs, arrange tenders, and supervise building contract progress.
vi.	C/F BCD	Comment in discussion upon the practical aspects of the development.

c. A Depot Group comprising PDO Thetford, ADO(H&M) Thetford, and C/F BCD. This group to meet regularly under the chairmanship of the PDO with representatives of depot supervisors and men, in order to ensure that all concerned were fully informed in good time of imminent changes and of the parts which they were expected to play in facilitating these changes with the minimum disturbance to continued production. This group to ensure this continuity of production, a smooth changeover to new equipment and facilities when installed, and in due course the introduction of new rates based upon Work Study recommendations. *

This list is that put out by Mick Dinning once approval had been given. The asterisk was mine indicating that there would be a considerable involvement on the part of Education and Training Branch both in operator selection and subsequent training.

Also circulated with the organisational list was a copy of the Proposals for the Redevelopment of Brandon Central Depot (87) (App. 11g).

Over a period of around 6 months there were a number of staff changes starting with my appointment as Depot Manager from 1 October 1979 in place of Graham Hobbs, Jack Maiden replaced Graham Cook as Conservancy mechanical Engineer and Simon Hewitt replaced Ted Portlock as Area Land Agent all of whom took over their respective places on the various working groups.

The Conservancy Group met a total of 9 times between November 1979 and September 1980 by which time progress with the various development contracts was well advanced. As far as I am aware there were no further meetings.

The Steering Group also met 9 times the final meeting being on 8 June 1982 by which time all the major projects were well advanced and many already completed.

The Depot Group never really met formally although close liaison was maintained through regular routine meetings which occurred in any event.

In practice the majority of on site decisions inevitably fell to the Depot Manager with ready access to Simon Hewitt, Jack Maiden and Les Davies, Conservancy Civil Engineer, for advice when required. Once specifications were agreed and contracts drawn up through the 2 working groups in conjunction with HQ, implementation and control was shared between the 4 of us and this really worked very well. The various elements of major projects which went to make up the whole programme of redevelopment are described in detail in previous sections of this history but the major requirement in terms of organisation was to ensure adequate stocks were maintained in order to fulfil contractual commitments at all times. There were periods when whole production lines became inoperative while it was a matter of weeks before the new replacement came on stream.

Plate 60. Aerial view taken in 1983 following completion of the main redevelopment. Broomhill Cottages were demolished later that year.

A measure of the success achieved by all the planning and organisation which went into the 3 year programme, not to mention the co-operation of the whole workforce which was exceptional, was that no customer was ever let down and all contractual commitments were fully met.

11.3 Management Board

Moves towards the setting up of a Management Board as recommended by Director Harvesting and Marketing, Mr Gwyn Francis, in October 1983 started in earnest early in 1984. Draft Terms of Reference and membership were drawn up and approaches were made to find an external adviser. Doctor Anthony Bushell, Senior Lecturer in Management Studies at the Management Centre Norwich City College, was finally appointed after preliminary discussions over a period of some months. As prospective external adviser Dr Bushell was supplied with a Background Note written by David Henderson-Howatt, Assistant to the Forest District Manager at that time. (88).

In turn Dr Bushell provided a package which included a resume of his recent activities, a proposed contract, a proposal presented in the form of a timetable of advisory activities over a 52 week period and a proposed Management Action Programme. (89).

The preparation of this package presented at the end of May 1984 followed an exploratory meeting between Dr Bushell and myself in order that Dr Bushell could become acquainted with the Depot and its workings.

A final draft defining Membership and Terms of Reference was prepared (90) and the first meeting of the Board arranged for 3 October 1984.

Four further meetings took place between myself and Dr Bushell with the principal objective of designing a series of periodic report documents to provide a management system.

By the third meeting held on 5 December 1984 I had prepared rough drafts with completed data for discussion. Most of the information required was already available in one form or another but new procedures had already been set up to cover any gaps that did exist. The approach was commercial rather than one aimed at accountability and budget control, these being the objectives served by the Forestry Commission system.

There were 5 documents initially:-

1. BCD Purchases.

2. Work in Progress.

3. Finished Stock Evaluation.

4. Sales Analysis.

5. Profit Account.

The report forms were prepared periodically to coincide with the 4 or 5 week national accounting periods, figures for expenditure being derived from monthly computer prints. All other information was regularly available within a few days of the end of the period but completion was always dependent on the availability of the computer print, usually something like 3 weeks from the end of the period.

A sixth form was quickly introduced to indicate trends in average weekly performance over a running period of 6 months.

Copies of the monthly reports were supplied to all members of the Board with a quarterly report (91) to Conservator which included a written commentary. Membership of the Management Board was as follows:-

Forest District Manager Thetford - Chairman	L M Simpson
Assistant Conservator (Harvesting and Marketing) E(E)	M Dinning
District Forester i/c BCD (Depot Manager)	B Griggs
External Adviser	Dr A R Bushell

The Board was authorised to call upon the services of other Forestry Commission staff as necessary which it did from time to time.

Meetings continued at roughly quarterly intervals until April 1985 when Dr Bushell left the Board agreeing to continue with periodic consultation as and when the Board considered it necessary.

In January 1986 Len Simpson, FDM Thetford and Chairman of the Management Board summarised Dr Bushell's role and tenure as External Adviser in a report to Conservator (92). This report referred to a Marketing Plan for Posts, Stakes and Rails prepared by Dr Bushell in 1984/85 (93).

At the meeting held on 5 February 1986 Mr M Dinning attended for the last time in view of his promotion to Conservator. Also attending was Mr Norman Dannatt who was to succeed Mr Dinning as Operations Manager.

Also presented at that meeting was a paper prepared by Mr James Ogilvie entitled BCD - The Future (94) intended as a discussion document. This gave rise to 2 more papers written by myself concerning Methods of Payment (61) and Comparison between Design Specification and Actual Performance for the Peeler and Sawmill (62). All 3 papers were to be included as support items for the visit of the Commissioner Operations, Mr Gwyn Francis, on 6 and 7 March 1986.

The Board continued to meet quarterly until the extraordinary meeting on 19 November 1987 which followed the public announcement of closure made on 16 November 1987. A further 3 meetings were held between then and 22 March 1988 to monitor progress towards closure.

The final meeting was fixed for 27 September 1988 when the dissolution of the Board was formally agreed.

A total of 21 meetings were held and the minutes present an interesting record of events concerning the Depot over the 4 years from September 1984 to September 1988 (95).

11.4 Supplementary Improvements

As the proposals began to take shape in the form of firm contracts for tender, other items not included initially came under consideration, some of which were ultimately agreed. The following items were included among these, all of which made their contribution to the overall package of redevelopment.

11.4.1 Weighbridge

The original mechanical Avery Weighbridge was installed in 1959 and by 1980 after 20 years of continuous use there was some plate displacement and wear on the balance knife edges. In addition all 40 foot articulated vehicles had to be doubled weighed, a practice not favoured by The Trading Standards Office. Plans for the new office included incorporating the old weighbridge into the new office by building it around the old weighbridge office.

Representations initiated locally finally resulted in agreement to purchase and install a new Ashworth electronic weighbridge with 15 metre plate capable of weighing 50 tonnes maximum. It was also agreed that an axle weigh facility would be desirable, particularly as adding this at the time of installation did not add significantly to the cost compared with adding this facility subsequently.

The decision to install a new weighbridge simplified the building of the new office which could now be done independent of the old office. The new weighbridge which came into operation in August 1981 had a digital display and an electronic printer, a great improvement on the old mechanical dials and levers on the old Avery.

Electrical storms proved an expensive item until on the advice of someone researching electrical storms for the Central Electricity Generating Board, the plates were earthed and no more load cells were knocked out in succeeding storms.

One element of the case put forward to justify a new weighbridge was the belief that income from Public Weighs could be considerably improved. These fees did in fact increase more than ten fold amounting to well over £6,000 in the final year before closure and this was of course in addition to the invaluable role it played in monitoring the movement of produce in and out of the Depot and the forest.

11.4.2 UHF Radio

Although internal communications were mentioned as desirable in para 20 of the Phase One Report, no provision was included in the final proposals. Once the peeler complex and sawmill came into operation the need for communication between machines feeding the various production lines and those operating the lines became very apparent. Again a case was put and ultimately expenditure of some £5,000 was authorised for an internal UHF radio system.

This served to link front end loaders, the crane, the peeler cabin, the sawmill and gangers with the office and each other and despite apathy and a feeling that it was all rather a waste of money on the part of the workforce initially, within a very short space of time it was generally agreed to be of immense benefit. For instance a new order telephoned through could be in production in the mill within a matter of minutes of receiving the order. Feed decks which had become empty while front end loaders were away doing other work were soon attended to as a result of a radio call. The system worked well and gave very good service with few faults.

11.4.3 Removal of Bromehill Cottages and Realignment of Main Electricity Supply Line

The demolition of the cottages in 1983 finally allowed the removal of the dog leg in the main electricity supply line to the yard. When the supply to the new transformer and switch gear building was installed it had not been possible to persuade the Conservator that the cottages had no future and as a result the dog leg providing a power supply to the cottages had to be retained. This meant that all access from the yard to the bark dump area had to be under the power line which constituted a hazard. Nevertheless the alignment of poles, struts and stays were made such as to allow realignment of the line alongside the forest edge with no further adjustment necessary whenever it became possible, as it did in 1984 once the cottages were demolished.

11.4.4 Fuelwood Store

The perceived advantages of heating the mess room, service bay and office by wood fired boilers were not entirely fulfilled in that the moisture content of the offcuts seen as ideal fuel was a great deal higher than the 25% required for efficient performance of the boilers.

In order to improve matters a slat sided fuel wood store was added to the end of the mess building.

11.4.5 Office Extension

The new office was completed and ready for use in December 1980. The original dimensions had been reduced to some extent in order to recoup some overexpenditure incurred in building the mess building. This left the building, although well appointed, with space available at a bare minimum. In addition the wood fired boiler did not function well on conifer offcuts which were a long way short of being adequately seasoned.

The increasing use of computer equipment and the need for paper storage space finally rendered space for staff inadequate prompting agreement to an extension which was built early in 1987. In order to assist in the overall reorganisation of the office, heating was to be electrical night storage. This allowed the boiler room to be converted to a kitchen. The Managers Office was incorporated into the general office. The whole building was extended at the southern end over most of its width to provide a new Managers Office and a paper store, A new extended telephone system was also installed and the new extended office provided to be of great but short lived benefit as subsequent events were very soon to demonstrate.

11.5 Disposal of Old Buildings, Plant and Machinery

As the redevelopment progressed any buildings, plant or equipment which became surplus to requirements were offered for sale mostly by tender. The one major exception to this was the old Pendulum line which was dismantled and transferred to the Forestry Commission Pitwood Depot at Wentwood in South Wales where it was reassembled and continued in use until the operation was closed down early in 1988.

12. CLOSURE

Almost as soon as the redevelopment was completed the miners embarked on an overtime ban which started in October 1983. In March 1984 this became a full strike which lasted a full year ending in March 1985.

1985/86 was a good year with some promise after the disappointments of the previous 2 years but the promise was short lived.

The rationalisation which resulted in pit closures and amalgamations grew apace, resulting in ever diminishing demands for pitwood prompting increasing concern for the future of the Depot.

12.1 Appointment of Working Party

In a letter dated 9 January 1987 Steve Quigley, Director Harvesting and Marketing Division, announced that Mr David Foot, Commissioner Operations, had authorised the constitution of a Working Party with the following terms of reference.

Terms of Reference

1. To examine the Trading Accounts for Brandon Depot and the results which have been achieved compared with the expectations of the original project appraisal and investment decision.

2. To consider the prospects for the future of the depot in the light of past trading results and the decline in British Coal's requirements for round mining timber.

3. To make proposals for the future based on their consideration with a full cost appraisal. Finance Division and Planning and Surveys Division should be consulted as appropriate. The minimum rate of return required to justify operation of the Depot is 5%.

4. To report to Director Harvesting and Marketing by 30 April 1987.

The letter was addressed to each of 4 people inviting them to be a member of the Working Party, the composition of which was proposed to be as follows:-

Mr N Dannatt, Assistant Conservator Operations E(E) (Chairman)
Mr B Roebuck, Harvesting Officer, H&M Division
Mr B Griggs, Chief Forester, Brandon Central Depot
Mr R S Elliot, Operations Management Accountant (Secretary)

The group met on 5 occasions and finally presented its report on 25 June 1987 some 2 months later than originally requested but the original date was generally agreed as being rather optimistic (96) (App. 12a).

12.2 Interim Period

The decision to appoint a Working Party and its terms of reference were announced publicly and were known to local staff, not least those working in the Depot. Rumour was rife and the task of continuing to motivate both the supervisory, clerical and industrial staff became extremely difficult. Morale was ebbing and the question of customer confidence also loomed large. We had ongoing contractual commitments with some customers almost entirely dependent on the Depot for their supplies.

As a member of the Working Party I knew what recommendations had been made but I was in no position to discuss the matter or indeed to assume what the final outcome might be.

The demand for pitwood continued to deteriorate and the summer gave way to the autumn.

12.3 The Decision to Close and the Public Announcement

Finally on Monday, 9 November 1987 the Executive Board considered the Report and its recommendations that the Depot should be closed.

On Wednesday, 11 November the full Board of Commissioners met and accepted the recommendation of the Executive Board that the Depot should be closed and decided that this should take place as quickly as possible.

It was ironic that on Tuesday, 10 November a meeting took place, again at HQ in Edinburgh, between H&M Division and British Coal at which British Coal reduced the predicted national requirement for round mining timber from 90,000m3 to 42,000m3 for the following year. Even this lower figure proved to be generous in the event as actuals amounted to something only just in excess of 30,000m3.

On Thursday, 12 November Len Simpson the Thetford Forest District Manager and myself were summoned to a meeting at Great Eastern House, the East England Conservancy Office, together with various Heads of Departments to meet Mick Dinning who came straight off a train to the meeting to announce the Board's decision.

I shall never forget the apprehension in that room as we watched the Conservator make his way towards the building.

The announcement was that the Depot was to close but that this was not to be made public until the afternoon of the following Monday, 16 November. This would be after a meeting with Trades Union representatives to be held in the Depot office in the morning. The news was to be broken to the Depot staff in the mess building early in the afternoon after which a press statement would be released from Headquarters.

Staff were to be given 6 months' notice of redundancy on 1 December 1987 but all were to be paid off by 31 March 1988 at the latest in order to get all compensation paid within the current financial year.

The next 4 days were among the longest in my life having to face my staff who guessed I knew something but not being able to say anything at all.

While waiting for the Monday to arrive I busied myself with preparing plans to meet the given deadlines and deciding on strategies most likely to succeed to give the optimum possible benefit for staff and customers alike in the short time remaining.

Monday went as well as such a day could be expected to. It served to exchange problems presented by the previous need for confidentiality, with all the problems resulting from staff fears and apprehension now that the prospect was that all were to lose their jobs.

Local press and radio reporters were soon aware of the decision and telephone lines were very busy over the next few days with requests for interview but fortunately this was fairly short lived.

A Management Board Meeting was arranged for the following Thursday, 19 November by which time I had prepared a plan for the run down which was accepted by other members of the Board pretty well in its entirety.

British Coal had suggested they should be allowed to purchase our stocks of peeled poles for supply to pitwood producers to help tide them over the period immediately following the Depot closure. In principle this had been agreed but I questioned the advisability of this course of action as it would minimise the programme of work remaining and would place woodwool and bungwood customers in a very precarious supply position at very short notice.

My preference was to complete current pitwood orders thus extending the pitwood hauliers involvement for as long as possible and to enquire of woodwool and bungwood customers what quantity they would take, given an extended period over which to collect and given acceptable credit arrangements.

Given agreement to these arrangements I felt we would have a positive programme of productive work which was essential to see us through the remaining very difficult period of just over 3 months and reduce the possibility of compensation claims. The Board agreed on this course of action and approval was given by Director H&M.

Woodwool customers very quickly identified the proportions of our contracted commitments they would want to take up and suitable extended credit terms were agreed. Bungwood customers were also anxious to secure the maximum possible supplies before closure and extended credit terms were agreed with them also.

These efforts to assist customers by extending supplies for as long as possible finally limited claims for compensation to only two.

Camland, one of the two main bark customers lodged a claim for around £250,000 on the basis of unfulfilled contracts and lost profit. Ken Peckham the pitwood haulage contractor whose contract still had 18 months to run to September 1989 also claimed compensation but at the time of writing (December 1989) both claims remain with respective solicitors with little apparent prospect of resolution so far.

12.4 Staff

Once the closure had been announced to the Depot staff, problems and queries arose immediately. Meetings were arranged, attended by staff from Conservancy Office, in an attempt to explain what was a complicated set of rules in both general and personal terms.

New redundancy rules had not long been agreed, in fact so recent was the agreement that amendments were still only in draft form and no-one appeared at all familiar with the new arrangements.

Ultimately the opportunity was given for every member of staff to have a personal interview with HEO Establishments, Barry Sidaway, in order to clarify their own personal situation and by degrees more and more information was forthcoming as sufficient time elapsed to allow calculations on a personal basis.

All the staff were placed in the situation where they had been given 6 months' notice of redundancy on 1 December to become operative on 1 May but they had also been told that no-one would remain at work beyond 31 March and that severance pay would be paid for any period not worked up to 1 May.

In the event of a man finding other employment at any time after 1 December he would be permitted to leave only so long as there was no essential role for him at the Depot.

This situation created considerable difficulties in programming the run down. In order to clarify the situation each man was given a pro forma to complete indicating his preferred date for leaving from a selection of dates given. This proved a useful device and although some men did change their mind through changes in circumstances or attitude, generally it allowed the remaining work to be programmed. The majority settled on 26 February as their last day which I had already identified as being the day by which all necessary conversion could be completed.

12.5 Rundown and Final Closure

A few men wanted to leave before Christmas and were permitted to do so most of them having found other jobs in the area.

In the New Year the very much reduced level of pitwood production resulted in a very much simplified product mix in the mill. Increasingly through January the main effort became concentrated in the sawmill with 26 February as the deadline for completion of all conversion.

On 22 January I agreed a stepped bonus system with the Trade Union Representative Archie Hurrell, the objective of which was threefold:-

a. To encourage the men to want to stay long enough to complete the programme of conversion.

b. To motivate all those contributing to mill production towards completion by 26 February.

c. To assist in maintaining morale.

The system had only become possible because of the very much simplified cutting pattern and because the effort and time of all concerned could be concentrated on the mill operation with no dilution of that effort by the need to service other operations and loading as previously. The system also had some potential for reduced unit cost due to its overall influence on wages and machine costs. See App 4k.

Progress towards closure is clearly indicated in a copy of a report I was required to prepare for Conservator towards the end of January which also included an anticipated timetable to the end of March. (97) (App. 12b).

The bonus scheme did, I believe, have the desired effect and conversion was completed on the final day, Friday, 26 February.

By this time all pitwood deliveries were completed and the balance of stocks, 3 loads in all, were sold to J Walker and Sons of Worksop. Remaining stocks of peeled Cambio poles were sold by tonne to L and V Timber, a local company who converted them to fencing products on site, all products and offcuts being weighed over the weighbridge.

Peeled long butt stocks remaining were sold by tender to J Walker and Sons who also converted them to pitwood on site. In both cases offcuts were sold to Bill Scott the charcoal burner by the purchasers.

Bark stocks were cleared before the end of March 1988 although it was agreed that Doug Rolph could continue to collect bark from the dump as long as the office was manned.

Sales of firewood and minor stocks remaining continued through the summer of 1988 while collection of woodwool and conversion of long butts by J Walker continued.

All stocks were cleared by the end of October 1988. The weighbridge service was retained while logs from windblow in Suffolk continued to be stored in the Wet Store at Lynford. This allowed control of the haulage contracts and the total volume put into the store.

The weighbridge finally closed at the end of May 1989 having been operated under contract by Geoff Southgate who retired from his post as Public Relations Head Forester in October 1987 and became Weighbridge Operator almost immediately while Ron Hoblyn moved from the Depot and Plant Health duties to take his place at Santon Downham.

12.6 Disposal of Plant and Machinery

The peeler plant was sold by tender on 22.1.88 for £91,000. It was purchased by Robert Howie and Son who were very much late entrants into the field of prospective purchasers. The largest of the 2 peelers was installed at Nelson Potter's Sawmill in Suffolk together with infeed and outfeed works. The smaller peeler went to Scotland while the building and bays went to Clean Heat Ltd near Needham Market, a company marketing bark in conjunction with John Latter of Melcourt Industries who also had some connection with the installation of the other peeler at Nelson Potter's Mill.

The sawmill was also sold by tender to Adam Wilson. The whole plant, building and machinery, was dismantled and transported by road to Scotland where various sections were incorporated into various existing mills.

A third tender covered all the remaining miscellaneous timber handling equipment and trailers. Interest was mixed but all the items were sold.

All the box bearers and woodwool pallets were sold over the weighbridge to the charcoal burner. The box pipes were sold along with any other items suitable only for scrap to a local scrap metal dealer.

12.7 Sale of the Site

The declared intention once closure had been announced was to leave a clear site. By the end of October 1988 this had been virtually achieved with only the mess building, service bay and office remaining.

During 1988 a planning consultant Mr R Povey was engaged to investigate, recommend and make application for planning permission for the site. Initial application for a combination of Business Park Industrial development and low density upmarket residential development did not find favour with Breckland District Council and was withdrawn.

Subsequent application for industrial development was approved and sale of the site was placed in the hands of Bidwells of Cambridge (98) (App. 12c).

As expected foul drainage represented a problem which was resolved through meetings with Anglian Water Authority, the final solution being a thrust bore shared with British Telecom under the railway line adjacent to the level crossing. This matter was resolved after Bidwells had finally prepared and published the brochure.

Consultants Hannah Reed and Associates were commissioned to produce a feasibility study in respect of enabling works. Aspects considered included highways and a new access road, foul sewerage, surface water disposal, water supply, electricity, gas and Telecom. The brochure was finally produced by mid March 1989 (88) and the first advertisement appeared in the Estates Gazette on 17 March 1989.

Interest was mixed, the market for industrial development land having gone off the boil some months previously.

A meeting was held with Bidwells on 8 May 1989 to consider offers.

Only one offer was considered viable. This was from Mountleigh, the offer being £2,250,000 less the cost of enabling works.

At the time of writing, December 1989, the contract has still not been signed but there are hopes that the sale will be concluded in the New Year.

So ends the history of Brandon Central Depot after 42 years of continuous high activity with little remaining now to indicate all that has taken place there over many years.

The site has already started to revert to typical Breckland flora and a number of interesting birds have already nested there not least of all 4 pairs of Little Ringed Plovers.

No-one knows what the future holds but I suggest that within the total span of the history of the site, past and future, its 42 years as a pitwood conversion depot will probably have been the busiest most productive and most interesting period of any. I only hope that my attempt to record the events of these 42 years are adequate to do justice to the efforts and initiatives of all the many people who have been involved there.

B Griggs
December 1989