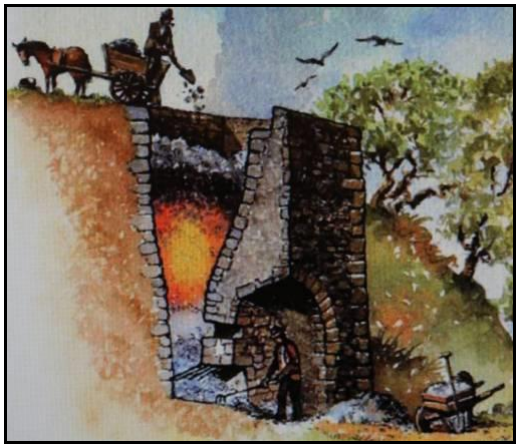
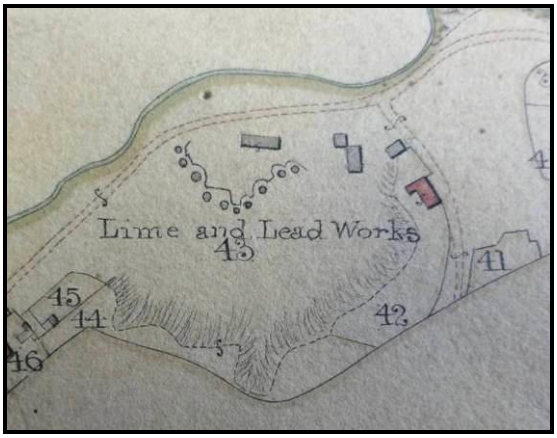
A HISTORY OF THE LIMESTONE AND LEAD QUARRIES AT DIMMINSDALE





BY SAMUEL T STEWART – 2020

PREFACE

Although the author has written about this subject previously as part of a larger publication, it was felt that as more knowledge and information had come to light since then, that a book dedicated solely to Dimminsdale should be written.

This book which is free to down load on the griffydamhistory.com website also compliments the author's recently published book entitled "A History of Limestone Burning in NW Leicestershire", which can be purchased via the same website.

Numerous spellings of the word for Dimminsdale have been used in the past, but as that is the spelling commonly used now, the author has decided to use that throughout the book except for where a different spelling is used in quoted research material.

ACKNOWLEDGMENT

As a carry over from his previous book on this subject, the author extends his thanks to the Leicestershire & Rutland Record Office for permission to publish certain material from their archives.

BIBLIOGRAPPHY

This is included within the contents of the book.

PUBLISHED BY SAMUEL T STEWART

CONTENTS

PART 1

THE FORMATION OF LIMESTONE

Limestone is a sedimentary rock composed primarily of calcium carbonate ($CaCO_3$).

The story started in the Carboniferous Period which lasted from about 359.2 to 299 million years ago when much of England was enveloped in a warm tropical sea close to the equator, where carbonates formed from the accumulation of shell, coral, algal, and fecal debris were deposited to form the Peak Limestone Group. Hence, many fossils are found in the quarries. The water depth would have varied over the different inliers from around 100m to 250m, with Breedon being in the order of 250m. The water pressure compacted the sediment over millions of years, creating limestone.

PART 2

THE GEOLOGY OF LOCAL LIMESTONE QUARRIES

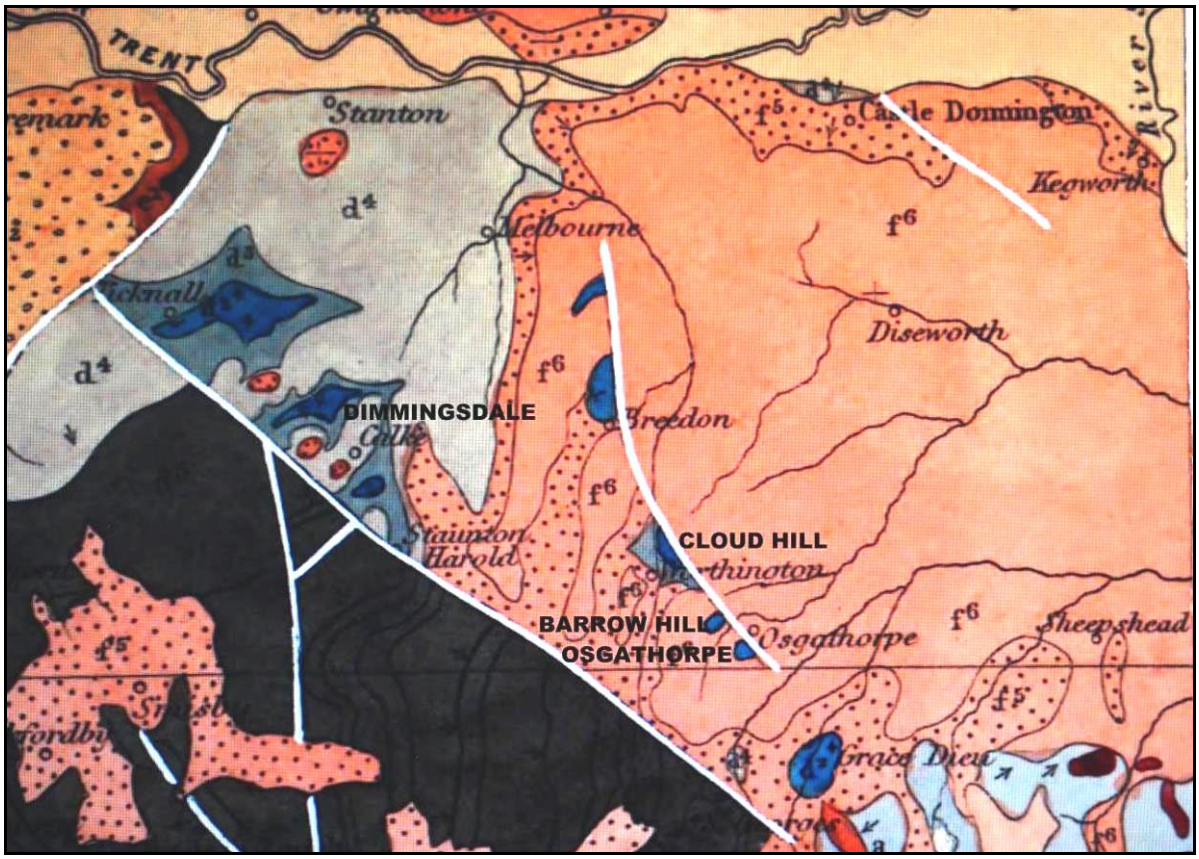
The following is taken from:-

THE GEOLOGY OF
THE LEICESTERSHIRE COALFIELD
AND OF THE
COUNTRY AROUND ASHBY-DE-LA-ZOUCH
BY EDWARD HULL, B.A., F.G.S.

This formed part of the:-

MEMOIRS
OF THE
GEOLOGICAL SURVEY
OF
GREAT BRITAIN
AND OF THE
MUSEUM OF PRACTICAL GEOLOGY
PUBLISHED IN 1860

THE CARBONIFEROUUS LIMESTONE DEPOSITS ARE SHOWN IN DARK BLUE ON THE FOLLOWING MAP AT GRACEDIEU, OSGATHORPE, BARROW HILL, CLOUD HILL (BREEDON CLOUD), BREEDON, DIMMINSDALE AND TICKNALL



CARBONIFEROUS LIMESTONE

This formation reaches the surface in eight isolated area, namely, Ticknall, Calke Park, Dimmingsdale, Breedon Hill, Breedon Cloud (Cloud Hill), Barrow Hill, Osgathorpe and Gracedieu.

At Breedon Hill and Breedon Cloud (Cloud Hill) we are presented with beds lower down in the Limestone formation than those of the remaining localities. At Ticknall, Calke, Dimminsdale and Gracedieu, the highest beds occur; and the strata of Barrow Hill and Osgathorpe are probably intermediate.

The strata of the two Breedon Hills (Breedon & Cloud Hill) *are almost identical with each other in lithographical character, as they also probably are in stratical position. They are composed of Magnesian Limestone or Dolomite, exceedingly hard, brittle, full of cavities, and traversed by joints. The colour of the rock is generally yellowish-brown, but frequently tinged red by the presence of peroxide of iron, and the structure is frequently sub-crystalline. The beds of the two hills plunge at angles varying from 40 to 80 degrees to the westward, the great amount of inclination being due to the proximity of the axis of disturbance which traverses Charnwood Forest, as also to a fault of later date, which passes along the eastern edge of the limestone between Wilson and Osgathorpe.*

*The three limestone areas of Ticknall, Calke, and Dimmingsdale, are brought to the surface through the combined agency of a great fault, and a series of gentle rolls. They form the highest beds of the Carboniferous Limestone, and are surmounted by shales. The western extremities of the rolls or anticlinals terminate against the boundary fault of the coal-field, the down throw of which is consequently on the west side**. It can be seen that the coal-crops terminate successively against the fault from Dimmingsdale to Whitwick, while on the upcast side the same strata occurs on both sides.***

*At Ticknall and Dimminsdale, the limestone was worked in caverns (**see later Dimminsdale quarry plans)** and at the latter the rock is highly metalliferous. In one of the veins* (on the Ferrer's Staunton side) *the following minerals were obtained; copper pyrites, galena, calcareous spar, sparry iron-ore, blende, and bitumen. The lead bearing ore is extracted in what is technically called "pipe-work", being followed by means of small horizontal galleries or pipes (Geol. Charnwood Forest, p.16)*

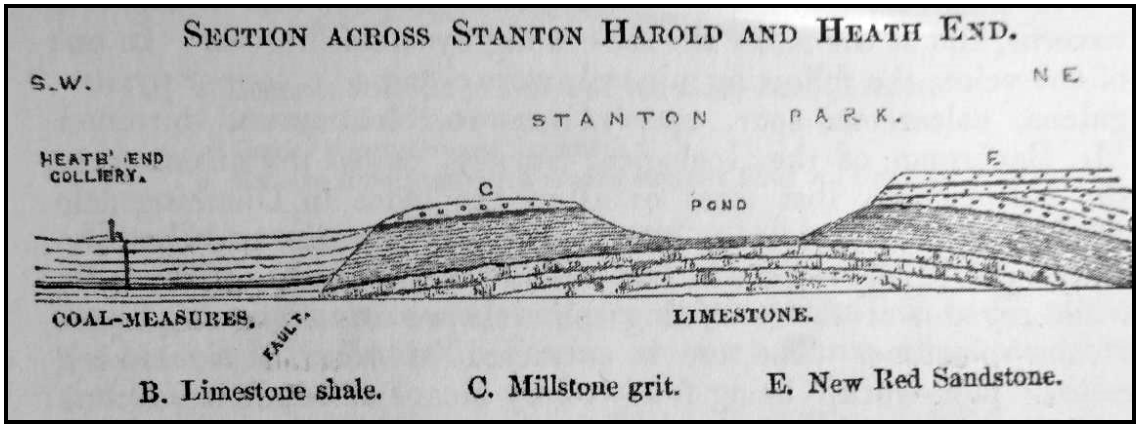


Diagram shows to the left the coal measures at Heath End terminating and outcropping against the fault and to the right the inliers of limestone which occur through Dimminsdale and Ticknall

In the journal of the Russell Society (2013), it is mentioned that when access to the old Ferrer's limestone and lead mine was obtained in 1939 (following draining of the quarry) local hearsay has it (recorded by Dr Robert King 1973) that Asphaltum (Bitumen) hung down in one of the adits in the form of Stalactites, almost blocking progress along it. Some of it was extracted and used as the fire lighting material by the Staunton Harold Hall gamekeeper. This supports the comments made above by Edward Hull in 1860.

Underground methods of lead and limestone mining through the centuries, were somewhat similar to those employed in the mining of coal. Of course, unlike limestone and lead ore, coal did not have to be subjected to subsequent processes as described in the various articles which follow.

Ticknall, Dimminsdale, Breedon, Cloud Hill, Barrow Hill, Osgathorpe and Grace Dieu, have all been quarried in the past, and Breedon & Cloud Hill still continue to be so. They form seven inliers of the Peak Limestone Group, (informally known as the Carboniferous Limestone), in north west Leicestershire and South Derbyshire (Ticknall & Calke side of Dimminsdale) along the north eastern edge of the Leicestershire coalfield, and can all be regarded as an extension of the Derbyshire mountain limestone.

PART 3

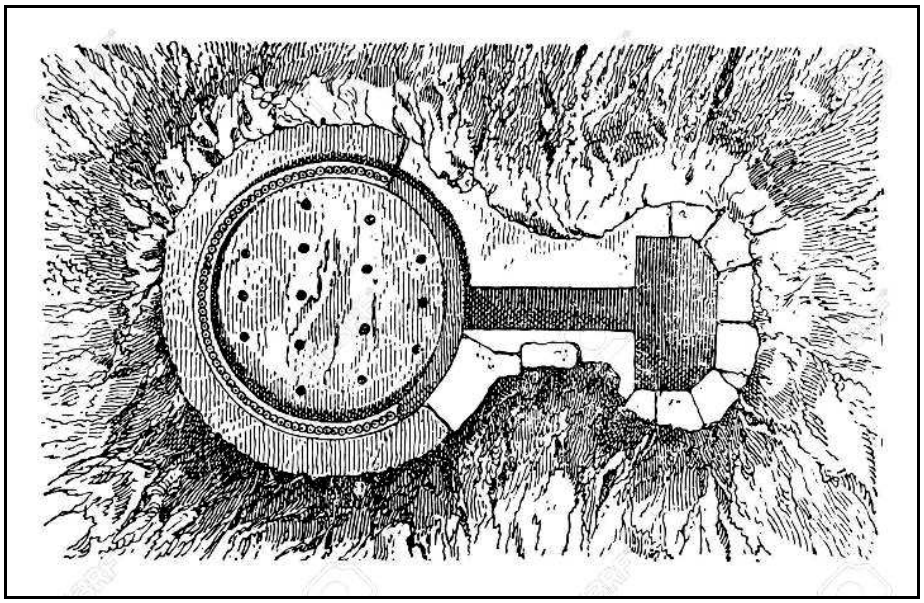
A SYNOPSIS OF THE HISTORY OF LIMESTONE BURNING & THE USES OF BURNT LIME, COMMONLY KNOWN AS QUICK LIME

History does not share with us who first burned lime, when, or why. Lime burning certainly dates to antiquity, and it is thought that subsequent to the discovery of brick making, ancient people arrived at the art of lime burning in order to produce “quick lime”. These early civilizations, well before Roman times had utilised lime to make mortar, and scientific analysis has established that lime mortar was used in the building of the pyramids.

The earliest form of limestone burning in Great Britain would most likely have consisted of alternate layers of fuel (wood) and limestone being stacked on top of each other in a scooped out hollow in the ground or a bank to form a mound, and then covered over with clay and turf, with an opening at the top. A fire would have been lit at the base and the hot gases drawn up through the mound to ignite the alternate layers of fuel and burn the limestone in order to convert it into quick lime. These mounds would have needed to be allowed to cool before the burnt lime could be accessed, thereby destroying the primitive kiln in the process. These early kilns are generally referred to as clamp or sow kilns.

In Great Britain, the burning of lime in “well designed / built kilns” has been attributed to the Romans, and the earliest surviving archaeological evidence of such kilns comes from that period of occupation. No surviving evidence has been found or recorded of any lime kilns in Great Britain prior to the Roman period.

Two examples of excavated “Roman Lime Kilns”, are shown in the following photographs. Work being carried out during the construction of the Porthmadog bypass revealed evidence of a large Roman lime kiln (LH photograph), which, along with other artifacts found, like roof tiles, suggested to archaeologists that a sizeable Roman settlement existed in the vicinity. This substantial kiln was recorded as being 4 metres across and 2 metres deep and had been cut into a bowl shape in the surrounding rock, which would not have been an easy task. Roman kilns were normally fired from an extended rectangular flue which is more clearly identified in the lower photograph of two similar side by side kilns found during excavations for the Lincoln eastern bypass. A fire would have been lit at the end of the flue farthest away from the kiln, and the controlled hot gases drawn through the limestone in the bowl at a temperature sufficient to convert the limestone into quick lime. The illustrations on the following page can be related to the photographs below. It has been suggested that the Romans learned the art of limestone burning from the Greeks.



There is no evidence to suggest that the Romans used anything but wood as fuel in the lime kilns. However, in certain areas they may have found outcrops of coal which they could have dug out and used. These kilns are often referred to as “Flare” or “Batch Kilns”. They would have been loaded with a single charge of layers of fuel and limestone and after burning was completed, they would have been allowed to cool down and the burnt lime rake out, before being charged and fired again.

The lime kilns built during the Roman occupation would have been established local to the buildings being erected, and limestone would have been transported to them from suitable locations. In both of the above examples, limestone was readily available locally. Most of the burnt lime produced during the Roman occupation would have been mixed with water, a process known as ‘slaking’, in order to produce hydrated lime (calcium hydroxide). This product formed the basis of mortar (for brick laying), concrete and plaster, which were all products used extensively by the Romans in the construction of their buildings. Good quality lime was also used in lime-wash, for waterproofing walls and lightening interiors. It was also used for bleaching paper, in tanneries for the removal of the hair from the hides, in medicines, and as a disinfectant.

LIME MORTAR

Lime mortar was used in the laying of bricks and building stone etc, much in the way cement mortar is used in today’s building methods. The main constituents of lime mortar were slaked quick lime and sand although numerous other ingredients were shown to have been added in past times to give the mortar different qualities such as increased water resistance; examples of these being eggs, tallow, keratin, beeswax etc. In order to improve setting times, crushed bricks or tiles were commonly mixed in. Much has been written about the preferred and safe methods of making lime mortar and numerous accounts of this are available for those wishing to gain further technical knowledge.

Although Portland cement was invented in 1824, this proved expensive and too strong for building applications in that period. In fact, cement based mortars didn’t fully replace lime based mortars until after the Second World War.

PART 4

AFTER THE ROMANS

Brick making seems to have ceased in Britain around AD 412, just after the Romans departed, and evidently little in the way of brick making was subsequently carried out for a period of some 700 years. It is recorded that the earliest definitive evidence for lime burning in post Roman Britain comes from a kiln sited at Guilford in Surrey, dating from the 12th century. The remains of both Roman and medieval lime kilns are widely distributed throughout Great Britain.

During the Anglo-Saxon period, buildings were usually of timber framed construction and, although lime may have been used for white-washing high status buildings, and in plaster, the demand for it was very low, not in part due to the high relative cost of producing it. Wattle and daub was used to make infill panels between the timber framework. This changed in the medieval period (1066-1485), when large quantities of mortar were needed in the construction of stone castles, city walls and religious buildings.

Stone and brick built “Field Kilns” as shown on the front cover, top left, consisted internally of an inverted cone where the fuel and cobbled limestone were stacked in alternate layers. The fuel was lit and the burnt lime and ashes raked out from the base. These were probably operated on a batch basis where more layers of fuel and limestone were stacked into the kiln from the top as the processed lime was raked out from underneath, in order to maintain a simple form of continuous burning kiln. Evidence exists for many of this type of kiln in remote areas from the mid 1400s to the early 1800s. These kilns would have been built local to limestone outcrops and the lime produced used locally. The design of kilns continued to evolve although the principles remained the same and a detailed explanation of the various developments follows later.

EVIDENCE OF EARLY COAL MINING IN THE AREA

Evidence is available confirming the ‘getting’ of coal had been taking place in this area at the start of the 13th century. One such example in italics is taken from John Nichols Antiquities of Leicestershire Vol 3:-
During the mid thirteenth century, one of the most important land owners in the Worthington district was Ralph Bozun. Around 1270, he and his wife granted some lands with apputances and coal mines which they contained to Garendon Abbey. These were probably in the area of “The Smoile” and the adjacent “Worthington Rough” near Lount, where the coal seams outcropped. This was not coal mining in the true sense, and coal would have been dug out to a depth below the surface. It was from the 13th century that the mining of coal started to slowly develop over a long period for both domestic and industrial use.

A STEP CHANGE IN THE DEMAND FOR BURNT LIME / QUICK LIME

The increase in the use of bricks for buildings in the 17th century led to a significant increase in the demand for burnt / quick lime for use in mortar as did the growth in use of lime for agricultural purposes. Due to the increasing demand, the trade of “Lime Burner” came into being at this time also, and examples of this are cited within the book.

It was in 1793 that the ‘Board of Agriculture’ was founded, and it commissioned general reports on the state of agriculture in Britain. From the different view points expressed by the Board, there was a consensus of opinion that the increasing use of burnt / quick lime on the land was extremely beneficial in making it more productive for the growing of crops. Prior to land being enclosed by Acts of Parliament, a great deal of “heath land” had been left to waste and the condition of the soil was in desperate need of improvement. Medieval land husbandry was very inefficient, and it was the fact that such crops as wheat or barley exhausted the soil. This

eventually led to the development of the three-field system. In this technique, one third of all the land was allowed to lie fallow or was planted with a regenerative crop such as peas or clover every three years before it could produce another wheat crop. This was obviously wasteful of land and it was soon found that treatment of the land with calcareous clay called marl together with farmyard dung improved the fertility of the soil. It was only another short step to the spreading on the land of burnt / quick lime, which helped to break up clay soils and "manured" (sweetened) the land to give improved crop yields. The dual use of lime for mortar and for fertiliser led to the development of small local industries centred on limestone outcrops which often developed into serious quarrying businesses.

With the building of the canals and subsequent tramways, followed by steam engine railway networks, wider markets for lime opened up as it could then be transported further afield. This of course promoted the need for larger, more efficient continuous burning kilns. The local lime burning quarries at Ticknall, Calke, Dimminsdale, Breedon Hill, Cloud Hill, Barrow Hill, Osgathorpe and Gracedieu all benefited from this increase in demand of course.

In his latest book entitled "A History of Limestone Burning in NW Leicestershire" the author covered the history of all the aforementioned quarries except for Ticknall and Dimminsdale. The former has been extensively written about elsewhere, hence this publication focusing on Dimminsdale only.

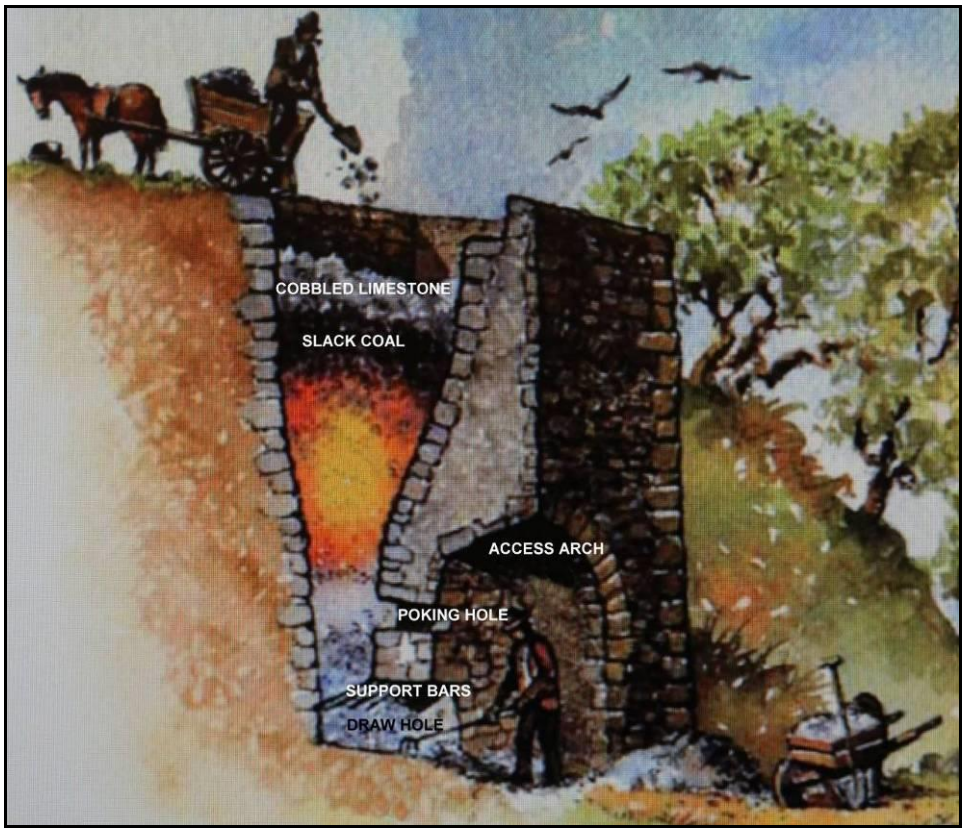
PART 5

EARLY INDUSTRIALISED KILNS DEVELOPED FOR THE PRODUCTION OF QUICK LIME

The following illustration is intended to be a **basic representation** of a lime kiln which would have been in use in the local quarries earlier years, once the burning of limestone developed into a serious enterprise. The design of kilns evolved over the years to allow for higher temperatures to be achieved together with a continuous burning process, which resulted in a more consistent and better quality product at a lower cost.

If lumps of limestone are heated to a temperature, preferably in excess of 900 degrees centigrade, carbon dioxide is driven off and what remains is calcium oxide, also known as 'Quick Lime'. The process is called "calcination". If calcination is carried out correctly, the processed lumps of quicklime are approximately the same size as the original lumps of limestone put in when the kiln was set, but much less dense. Due to the weight loss of 44% arising from the removal of carbon dioxide, this means that for every ton of limestone added to the kiln, only 56% of this is turned into quick lime. The lumps of limestone, normally about fist size when put into the kiln, tend to break up to a large degree, but if necessary, they could be ground down to provide various grades of quick lime in terms of fineness, dependant on the purpose for which it was to be used. Clearly, for use in the making of mortar, the lime would need to be of a very fine consistency, whereas, for spreading on fields, lumpiness could be tolerated, to a degree.

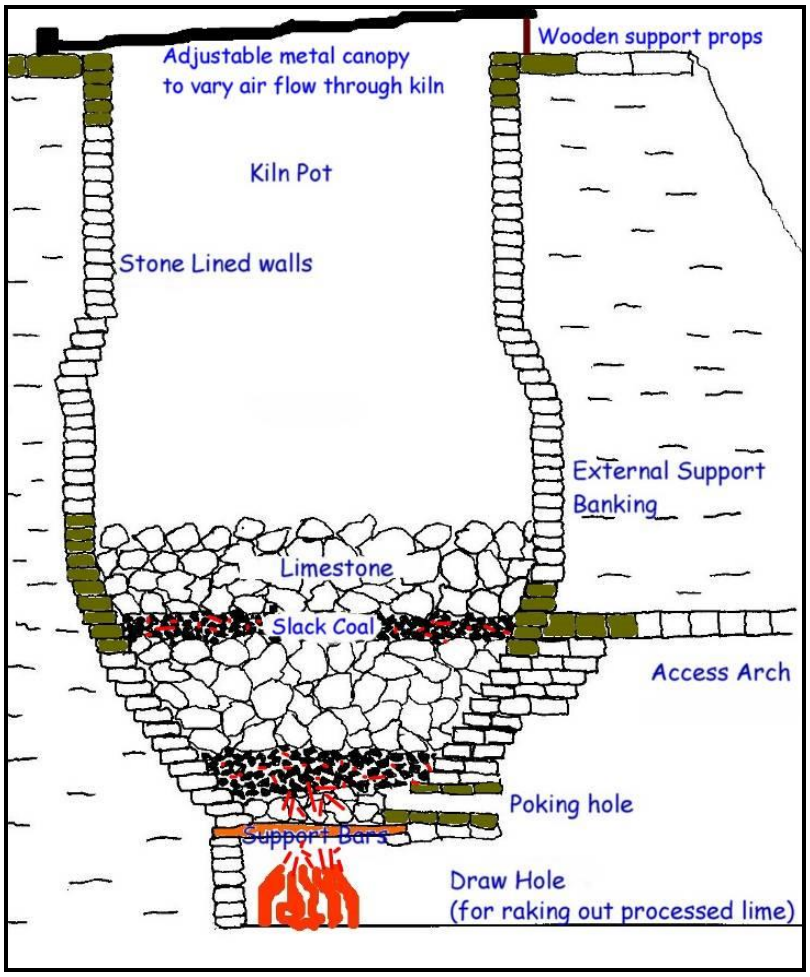
Various methods were used in the design of the kilns, but they all worked on the same basic principal. The kilns were lined internally with stones (often sandstone where available), or fire bricks and subsequently covered with fire clay when available. The kilns were surrounded with banked up earth to act as insulation. It was preferable to actually build them into the quarry face.



ORIGINAL PAINTED BY NORTHERN IRELAND ARTIST PHILIP ARMSTRONG (ANNOTATED BY THE AUTHOR)

The kilns would have typically been around 3.5m diameter at the top and tapering to about 1.5m dia at the base, in the form of an inverted cone, although designs did vary somewhat. At the base of the kiln, an arched entrance was constructed which gave access to the fire box and the draw hole for raking out the lime together with any ash residue after processing, which could subsequently be separated out from the lime by the use of a “riddle”. A “poking” hole was often included to work the burnt lime down through the grating bars.

Alternate layers of cobbled limestone (half a yard thick) and slack coal (5 to 6 inches thick) was shoveled into the kiln pot and stacked loosely by setters so that air could flow freely to draw the fire up through the layers in order that the slack coal ignited and burnt well. Slack coal was used, as lumps of coal were in demand for domestic use, and slack coal normally proved satisfactory. The layers were typically prevented from reaching the floor of the kiln by grate bars as shown in the illustration, at a sufficient height to enable the raking out of the burnt lime and ash residue. In the early days, the fire would have been started with a layer of brushwood and coal at the base, and the hot gases drawn up through the kiln ignited the layers of fuel between the limestone layers.

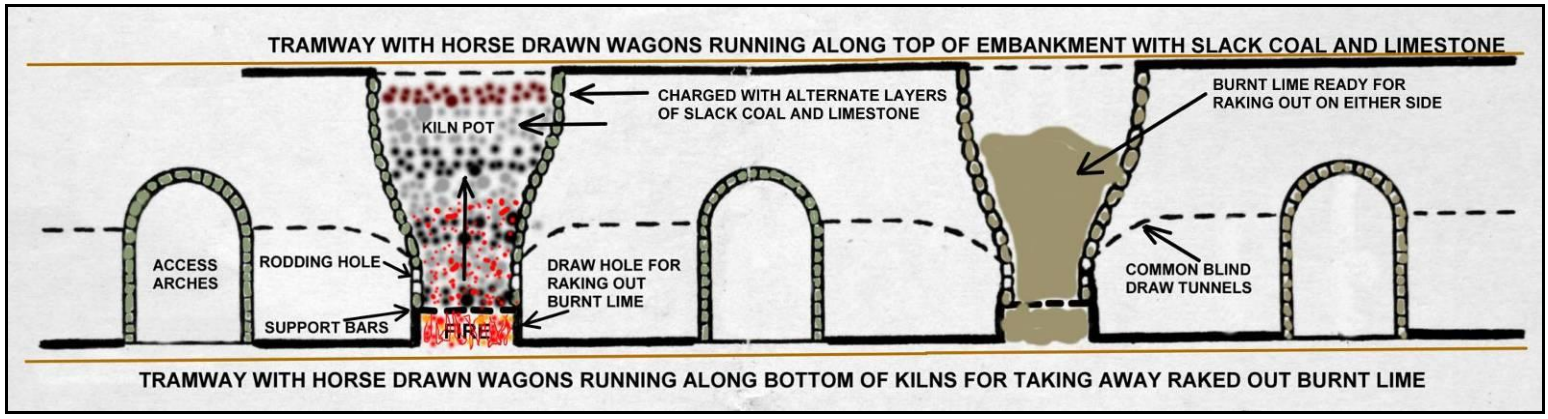


As time progressed, and tramways were introduced, horse drawn wagon brought the limestone and slack coal up to the top of the kilns, and another track ran along the bottom so that horse drawn wagons could take it away as shown in the diagram below

The rate of burning was usually controlled by an angled adjustable large iron sheet placed over the top of the kiln as indicated in the preceding diagram. The firing had the effect of expelling not only the carbon dioxide in the limestone, but also sulphur and other contaminants. This metal canopy over the top of the kiln, as well as controlling the air flow through the kiln, also protected the process in the kilns from the elements. If the kiln was being used on the batch principle, it would be left to burn for about five days and then required a further five days to cool. However, the continuous burning process was normally used where continuous layers of limestone and slack coal were added as the processed lime was raked out from the bottom.

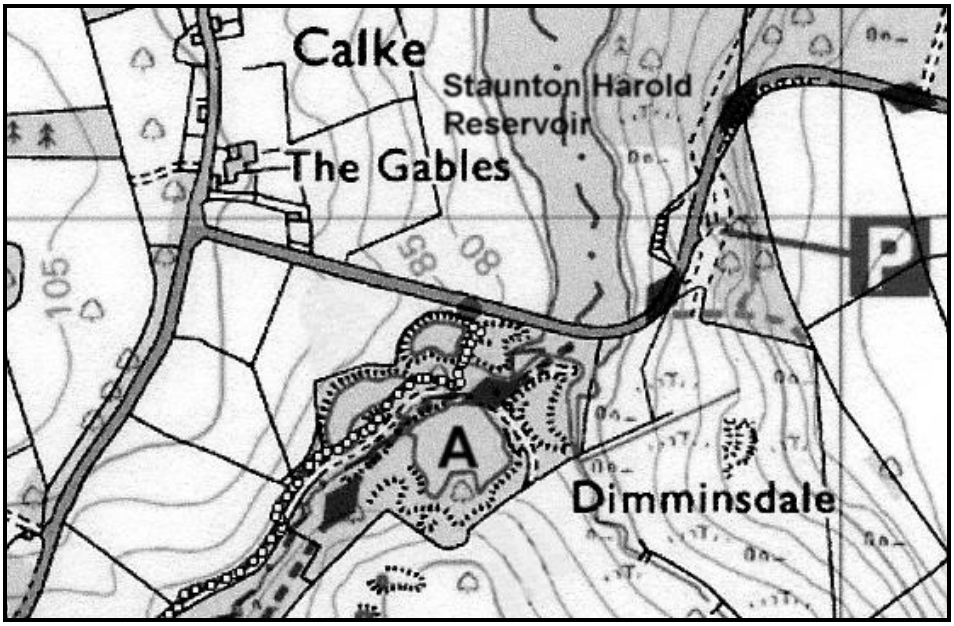
Prior to the tramway links being built, lime was actually put into storage sheds and could be collected by customers on site in horse drawn wagons. It was vital that the raked out lime was protected from the rain as this would have ruined it. A kiln might yield some 10 tons of burnt lime, and a tramway wagon carried about two tons. The working conditions would have been extremely unpleasant and poisonous, as the process would have caused serious polluting of the local land and streams which was often used as drinking water, thereby causing serious illnesses to develop. Many remedies were advertised to cure the stomach problems caused by the polluted streams.

As demand for burnt lime increased, several kilns were often joined together by common draw tunnels, often in pairs, into which the lime and ash residue was raked and then taken out through common entrance arches to storage sheds for collection by horse drawn wagons. Canopies would have been constructed over the arches to prevent the lime being ruined by the elements.



PART 6

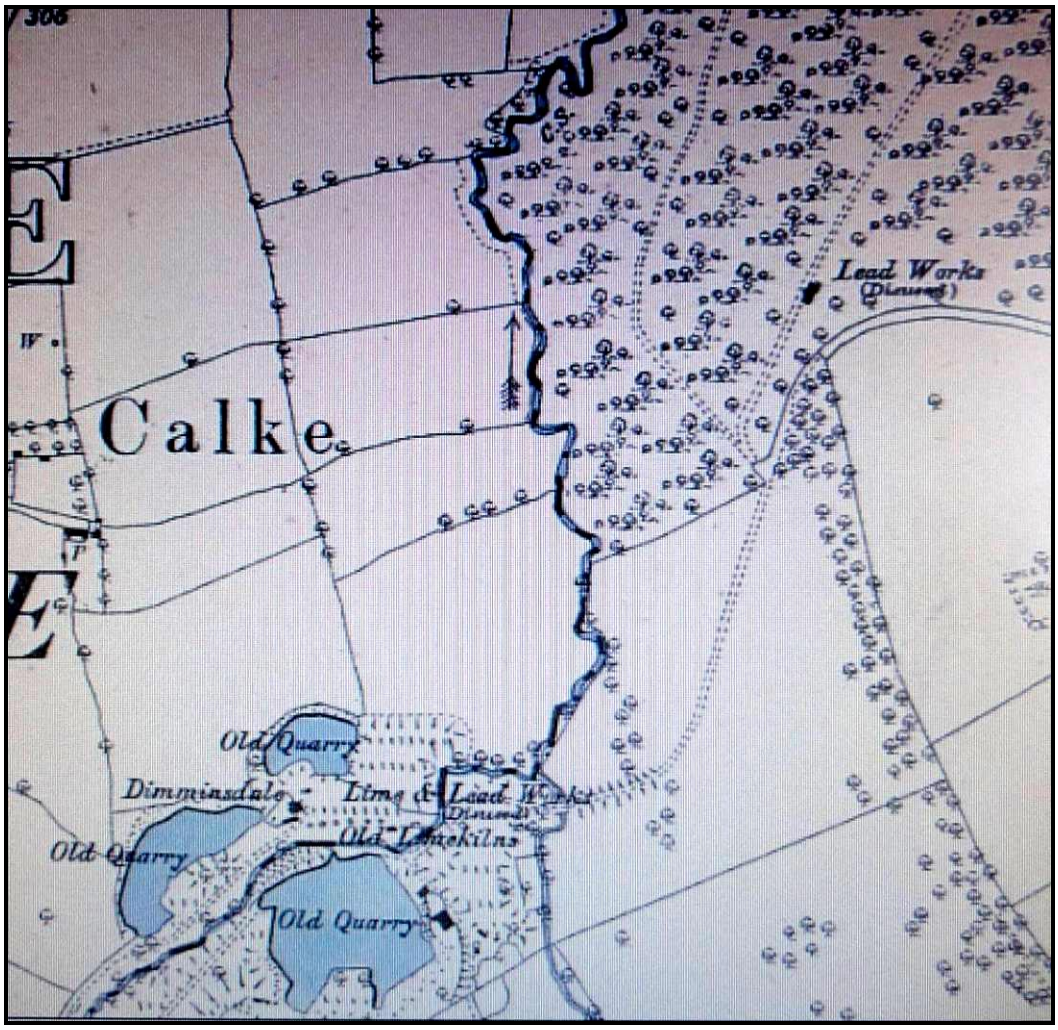
LOCATION OF THE DIMMINSDALE LIMESTONE AND LEAD MINES



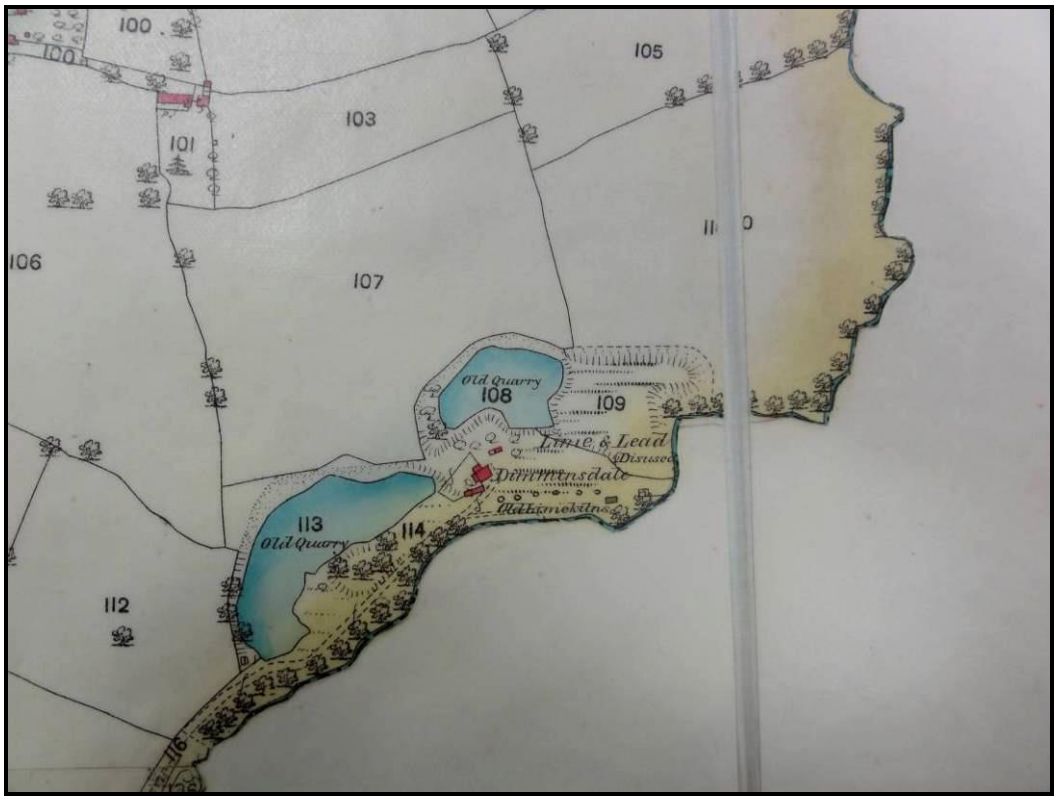
The modern map above shows what is now “Dimminsdale Nature Reserve” in the area marked **A** on the site of the former lime and lead works quarries. **A** also designates the “Old Quarry” which has become known over time as “Laundry Pool”, and takes its name from “Laundry Cottage” which features later. The map shows part of the Staunton Harold reservoir to the north of the quarries, the construction of which was completed in 1964. Several important historical cottages, farms and bridges were sadly razed in the area at the time and some of their remains still lie below the waters. Some of these could be observed in 2019 when the reservoir was at a very low level. The following extract from the 1885 O/S map shows the full extent of the Calke and Staunton sides of Dimminsdale Lime and Lead works separated by a dashed line representing the old “Red Brook”, prior to the reservoir being built.

THE CONFLUENCE OF THE VARIOUS BROOKS AT DIMMINSDALE BEFORE THE CONSTRUCTION OF THE STAUNTON HAROLD RESERVOIR

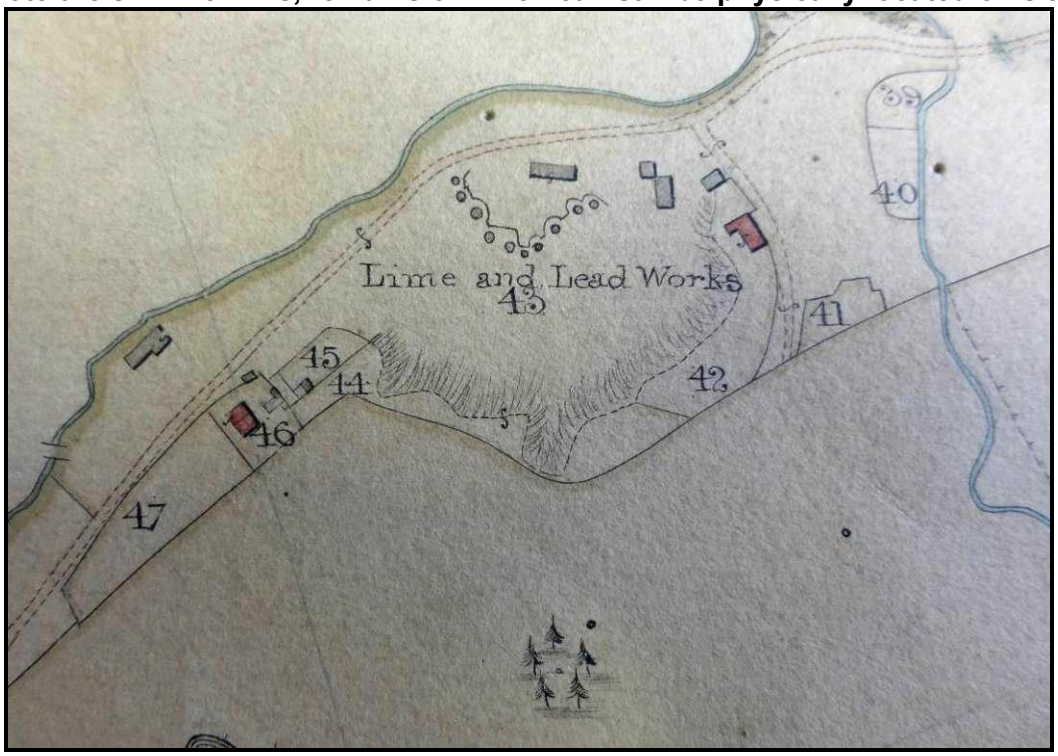
‘Red Brook’, formerly known as Aldebrook and more anciently Alre Broc starts its journey on the Pistern Hill’s ridge. It passes under Heath End Lane to the north east of the Staunton Harold rear entrance, where it is joined by other streams and continues to flow north eastwards till it enters the quarry pool now known as Laundry Pool at Dimminsdale and then flows onwards to join up with the Staunton Harold Brook which flows out of the Serpentine and Church Pools in front of the hall. The brook formerly known as New Brook which was inundated when the reservoir was constructed joined at the same point. The three brooks which joined at a point just to the east of Dimminsdale are clearly shown on the following map.



There follows extracts from the 1883 Melbourne Parish map (upper) and the 1859 Staunton Harold Estate map (lower). These have been superimposed on one page to show the north and south sections of the Calke (Harper Crewe estate side) and Dimminsdale (Staunton Harold estate, Ferrers side) Lime and Lead Works, which were separated by “Red Brook” as it was known at that time. The scale of the two maps is not exactly the same, but suffices to show the two parts of the quarrying activity either side of the brook. The brook on the Staunton Harold 1859 map is shown in blue running along the top. The brook on the Melbourne Parish Map is shown in black running along the bottom of the map. Red Brook actually marks the south Derbyshire / North West Leicestershire County boundary in that area, with the former Harpur-Crewe, Calke estate to the north, and the former Earls Ferrer’s Staunton Harold Estate to the south. However, some land over the border on the Derbyshire side, north east of the Harpur Crew lime works was owned by Ferrers. The six lime kilns on the Calke side, and the ten on the Staunton side, are shown on the maps.



Calke Estate side (south Derbyshire) – 1883 Melbourne Parish Map
Note the six lime kilns, remains of which can still be physically located on site



Extract from the 1859 Staunton Estate map (North West Leicestershire). Note the position of the ten lime kilns which are now below the water level of Laundry Pool

PART 7

THE QUARRYING OF LIMESTONE AT DIMMINSDALE FROM THE LATE 18TH CENTURY

Dr. Robert J. King in his report on "Lead Mining in Leicestershire" tells us that "*limestone had been quarried from this site since the thirteenth century when it was the property of the Monastery of Breedon*". *At some point after the dissolution of the monastries in the 1530's the land on the south side of the brook came into the possession of the Shirley's (later Earls Ferrers) at some point*. Below is a synopsis by the author of how the Shirley's came into possession of the lands:-

Although the "Stauntons" had long been in possession here, the Staunton Harold estate came into possesion of the Shirley family, when Ralph Shirley, son of Sir Ralph Shirley (b.1392) and his first wife Joan Basset, married Margaret de Staunton, daughter of John de Staunton. Sir Ralph, like his father, was Constable of Melbourne Castle, and also of the castle in the Peak of Derbyshire (Peveril?). At various times, the de Stauntons' had also owned extensive properties and lands in the counties of Leicester, Nottingham, Derby and Warwickshire, all of which Margaret de Staunton inherited on the death of her father and brother. Margaret was sole heiress of her brother Thomas Staunton esq, who died as a minor aged two, shortly after the death of his father in 1422. Ralph would have been no older than fifteen years of age when he married Margaret, (LRO 26D53/254). Research suggests that he had been born before August 1408 whilst his father was still a minor. Custody of young Ralph's inheritance was retained by his mother and father until he came of age in about 1429. Various dates are recorded for Margaret's birth date, but she was probably barely eighteen when she married. Ralph and Margaret were 4th cousins, and as such, his father had to obtain a papal dispensation from the Pope, Matin V., before the marriage could take place (April 2nd 1423). The marriage was solemnized on September 23rd 1423. Following their marriage, Ralph Shirley established his seat at Staunton. This meant that all his wife's inherited properties and lands now fell into the hands of the Shirley's. They had issue one son named John, who features later. Following the death of his wife Margaret c.1435, Ralph Shirley married again to Elizabeth, the daughter of Sir John Blount. His third marriage was to Lucia, daughter of Sir John Ashton, Knt. Ralph Shirley died on December 26th 1466, siesed of the manors of Shirley, Hope, and Brailsford in Derbyshire and was buried in the church of Brailsford, Derbyshire.

"A HISTORY STUDY ON THE ORIGINS AND ESTABLISHMENT OF THE STAUNTON HAROLD ESTATE" by Samuel T Stewart is available as a free download on the website and this features an article entitled…….. **"An Interesting Debt Accrued By Washington Shirley, 5th Earl Ferrers & Subsequently Inherited by the 6th and 7th Earls".**

In this, there is confirmation of when the lime and lead works were started on the south side of Red Brook by the 5th Earl Ferrers. Evidence is contained in a letter from 1777 regarding the loan of £6,000 from Chevaliere d'Eon (originally a French spy) of which the Earl Ferrers had apparently illegally spent £3,000 on the works stating that……..*I have drawn a great quantity of lead ore from it; but having no furnace built, I cannot yet make money of it.*

This would suggest that the quarrying of limestone had started some years prior to this, in order to reach the lead ore veins.

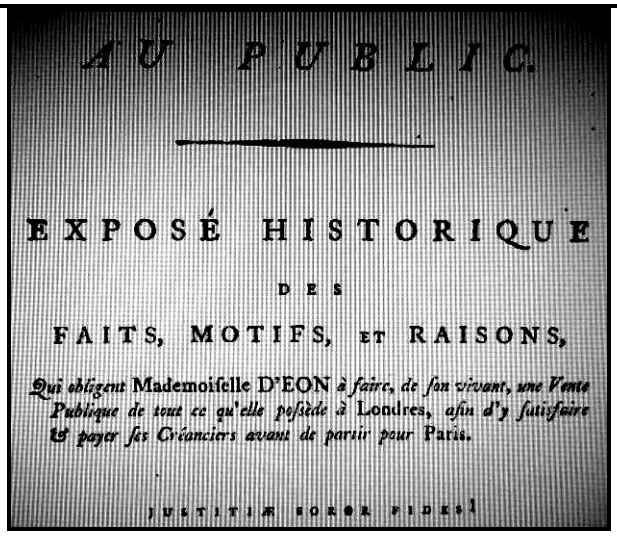
MADAMOISELLE DE BEAUMONT OR CHEVALIER d' EON

A rather sad and complicated story is based around an **initial** unpaid loan of **£6,000** which was made to the 5th Earl Ferrers in 1777 by Chevalier/Chevaliere d'Eon of France, apparently to fund the development of the "Dimminsdale Lead and Lime Works".

Based on the following record in the publication entitled "Freemasons and The Royal Society - Alphabetical List of Fellows of the Royal Society who were Freemasons", it would seem that this is how the 5th Earl first came into contact with this person:-

Washington Shirley, 5th Earl Ferrers gave shelter and protection to the famous Chevalier/Chevaliere D'Eon, a member of the Lodge - L'Immortalite de l'order (a French Lodge) No 376, London, at his home Staunton Harold, ***during the height of the controversy regarding the latter's sex***.

Many letters and documents regarding this unpaid loan appeared in the newspapers of the day, and various historical recordings. From records of what happened in the Chevalier / Chevaliere d'Eon's later life, it is clear that the loan was never repaid by the 5th, 6th or 7th Earls Ferrers and the bitter affair dragged on for many years, eventually causing the bankruptcy of d'EON and left her destitute and dying in poverty. It is reasonable to assume, that at the time the loan was made to the 5th Earl Ferrers, it was in the guise of **Mademoiselle** Chaveliere D' Eon, and to confirm this, subsequent correspondence from the 6th and 7th Earls Ferrers address him / her as **Mademoiselle**.


AU PUBLIC.

EXPOSÉ HISTORIQUE

DES

FAITS, MOTIFS, ET RAISONS,

Qui obligent Mademoiſelle D'EON *à faire, de ſon vivant, une Vente Publique de tout ce qu'elle poſſède à* Londres, *afin d'y ſatisfaire & payer ſes Créanciers avant de partir pour* Paris.

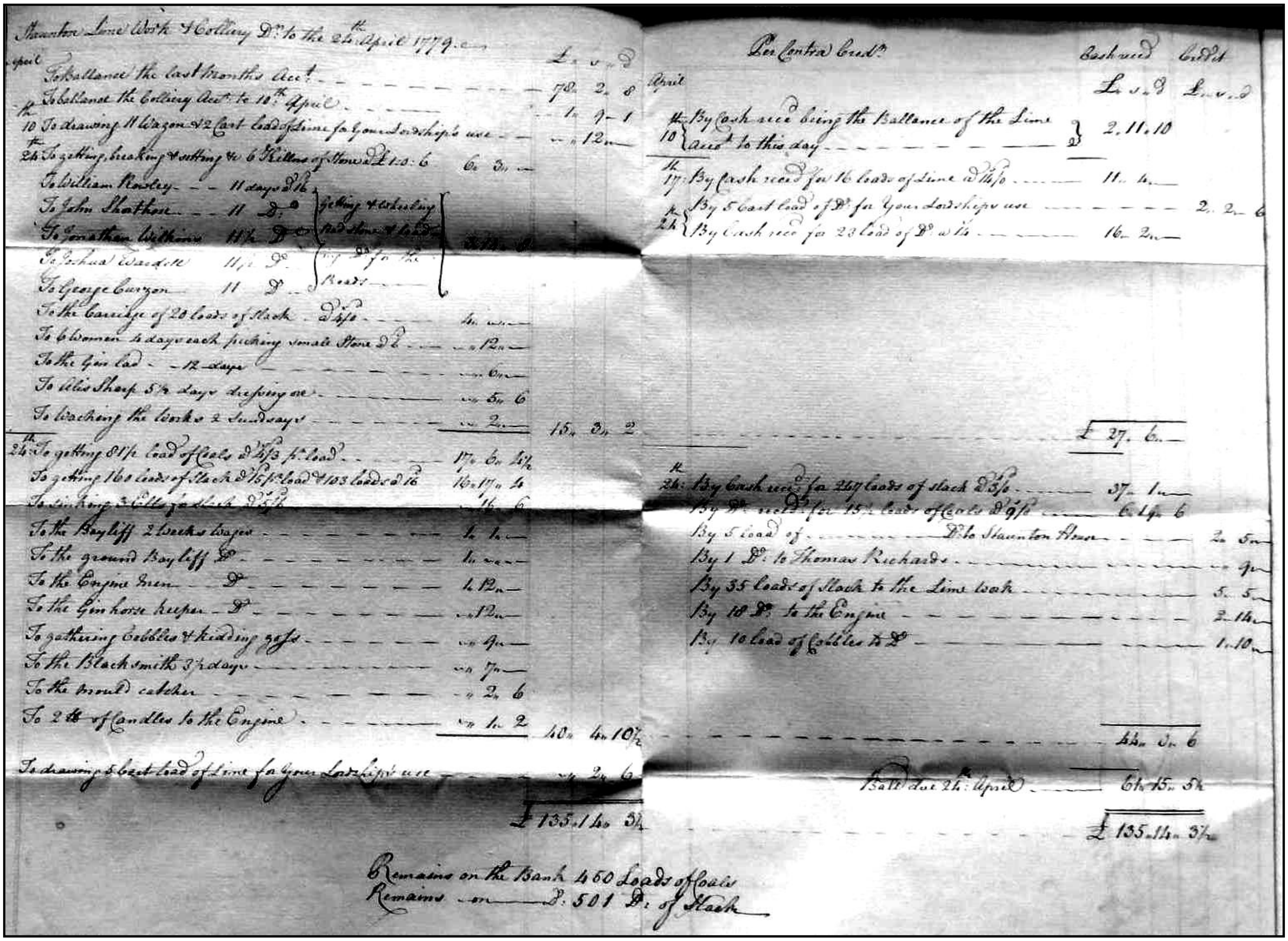
JUSTITIÆ SOROR FIDES.

The Harper-Crewe family worked the north side of the boundary, and the Earls Ferrers the southern side. In fact, in a 1779 set of accounts which feature later we can see that Ferrers employed a man to look after his works on Sundays, presumably to prevent any encroachment on his land by Harper-Crewe. We have found no concrete evidence for the length of time that the Harper-Crewe family worked the Calke side of the mines, although we have significant information in that respect on the Staunton Harold side, which features later in the book. There has been some suggestion that the Calke side outlived the Staunton side, but the author has found no factual evidence of this.

By c.1835, the Dimminsdale Lime and Lead works together with the coal mining adjacent to Heath End had developed into a commercially important industrial complex, and once its systems of tramways which linked into the old Ticknall tramway at Southwood and then onto the Ashby Canal, Dimminsdale was opened up to a much wider market. It must be said however, that as the Cloud Hill / Ticknall tramway had opened up in 1802 to Willesley basin and the Ashby Canal in 1804, **Dimminsdale had missed 30 years of access to the wider markets via the national network of canals, which Ticknall and Cloud Hill had benefited from.**

There are a number of limestone outcrops in South Derbyshire but nothing of particular note beside Ticknall which were worth working. However, Dimminsdale was found to have a substantial outcrop of limestone, hence the development of the quarry there. The limestone was burnt in the lime kilns to produce quick lime but it was not suitable for use in buildings. By the latter part of the 19th century, both lead and lime working in the area had come to an end, and eventually the quarries filled with water.

SOME EARLY PRODUCTION RECORDS FROM EARL FERRERS' MINES



Staunton Lime Work & Colliery Dr. to the 24th April 1779

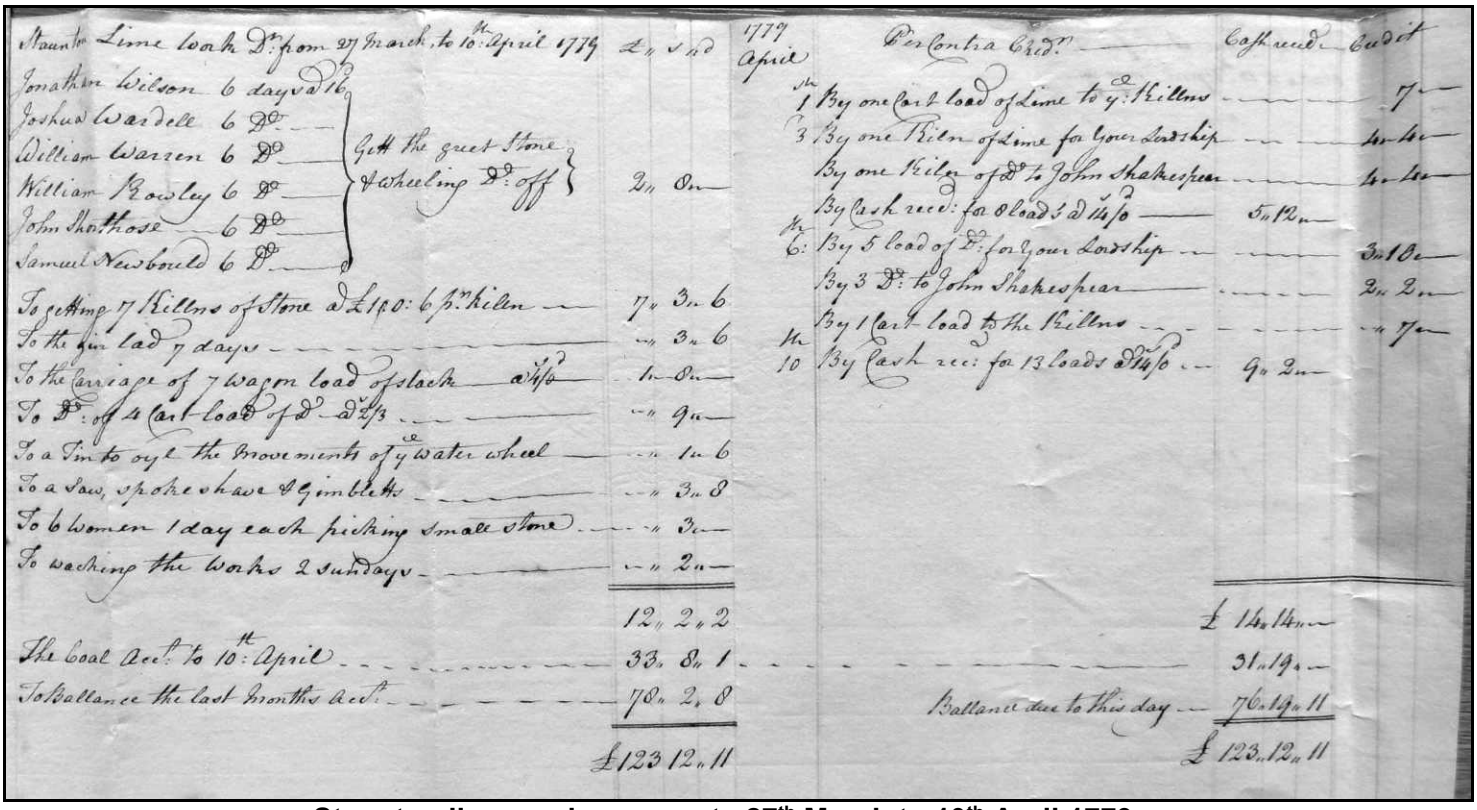
April		£ s d		
	To Ballance the last Months Acct.	78. 2. 8		
	To Ballance the Colliery Acct. to 10th April	1. 9. 1		
10	To drawing 11 Wagon & 2 Cart load of Lime for Your Lordship's use	.. 12.		
24th	To getting, breaking & setting &c 6 Kilns of Stone @ 1.0.6	6. 3.		
	To William Rowley — 11 days @ 1/6 — getting & wheeling Red stone & laborg. for the Roads			
	To John Shathon — 11 D.o			
	To Jonathan Wilkins 11½ D.o			
	To Joshua Wardell 11½ D.o			
	To George Curzon 11 D.o			
	To the Carriage of 20 loads of Slack @ 4/s	4.		
	To 6 Women 4 days each picking small Stone @ 6	.. 12.		
	To the Gin lad — 12 days	.. 6.		
	To Wm Sharp 5½ days dressing ore	.. 5. 6		
	To Washing the Works & Sundays	.. 2.	15. 3. 2	
24th	To getting 81½ load of Coals @ 4/3 p. load	17. 6. 4½		
	To getting 160 loads of Slack @ 1/6 p load & 103 loads @ 16	16. 17. 4		
	To sinking 3 Colls of Slack @ 5/6	.. 16. 6		
	To the Bayliff 2 weeks wages	1. 1.		
	To the ground Bayliff D.o	1.		
	To the Engine men D.o	1. 12.		
	To the Gin horse keeper D.o	.. 12.		
	To gathering Cobbles & kidding goafs	.. 4.		
	To the Blacksmith 3½ days	.. 7.		
	To the mould catcher	.. 2. 6		
	To 2 lb of Candles to the Engine	.. 1. 2	40. 4. 10½	
	To drawing 5 Cart load of Lime for Your Lordship's use	.. 2. 6		
			£ 135. 14. 3½	

Per Contra Credr.

April		Cash recd. £ s d	Credit £ s d
10th	By Cash recd being the Ballance of the Lime Acct. to this day	2. 11. 10	
17th	By Cash recd for 16 loads of Lime @ 14/s	11. 4.	
	By 5 Cart load of D.o for Your Lordship's use		2. 2. 6
24th	By Cash recd for 23 load of D.o @ 14	16. 2.	
		£ 27. 6.	
24th	By Cash recd for 267 loads of slack @ 3/s	37. 1.	
	By D.o recd for 15½ loads of Coals @ 9/s	6. 19. 6	
	By 5 load of D.o to Staunton House		2. 5.
	By 1 D.o to Thomas Richards		.. 9.
	By 35 loads of Slack to the Lime Work		5. 5.
	By 10 D.o to the Engine		2. 14.
	By 10 load of Cobbles to D.o		1. 10.
		44. 0. 6	
	Ball. due 24th April	64. 15. 5½	
		£ 135. 14. 3½	

Remains on the Bank 460 Loads of Coals
Remains on D.o 501 D.o of Slack

The above is a copy of accounts dated the 10th to the 24th of April 1779, appertaining to the lime works and Staunton Colliery which by then were owned by the 6th Earl Ferrers who had inherited the title and estate from the his brother, the 5th Earl, who was working the lime works and colliery prior to his death in 1778.

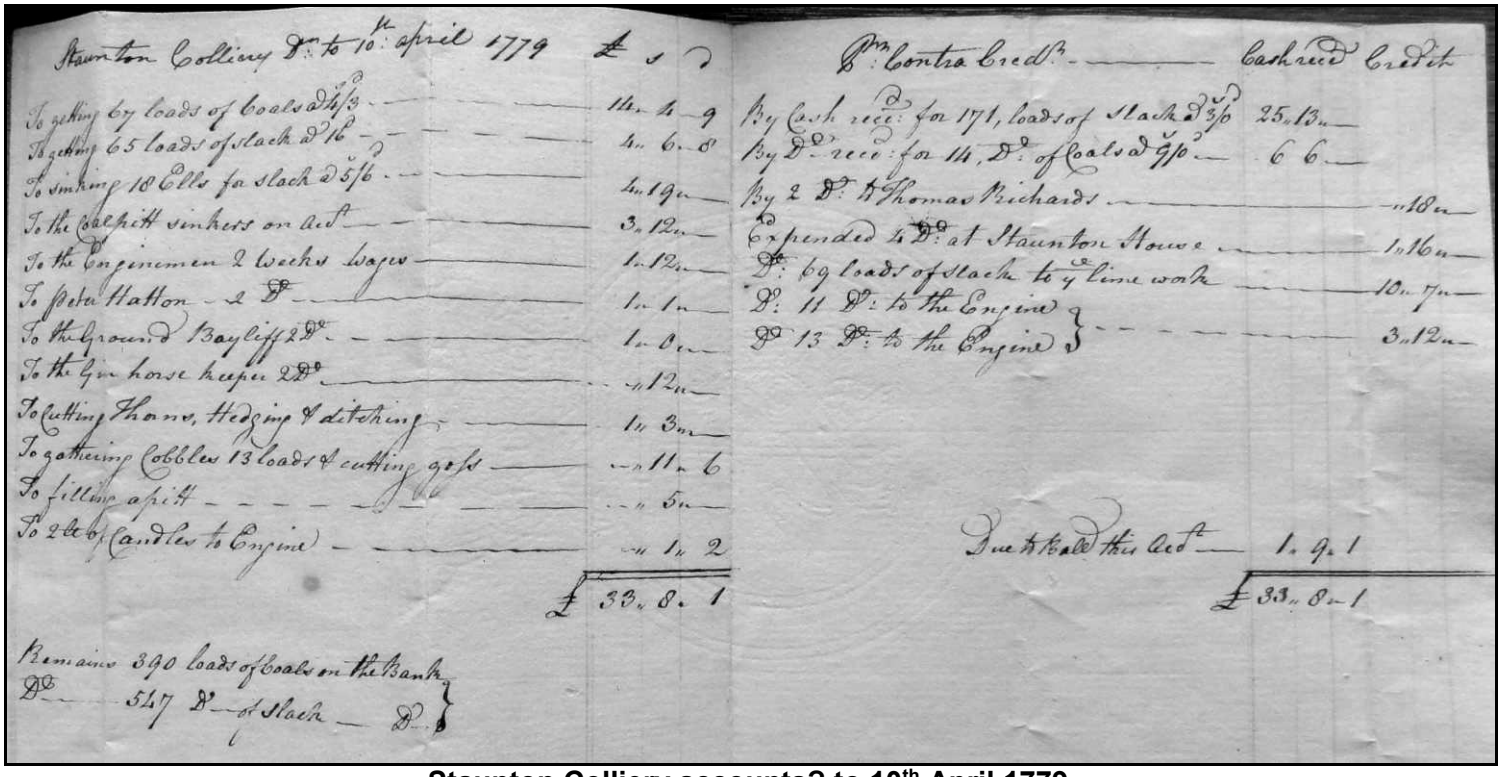


Staunton Lime work D.r from 27 March to 10th April 1779

	£	s	d
Jonathan Wilson 6 days @ 1/6			
Joshua Wardell 6 D.o			
William Warren 6 D.o			
William Rowley 6 D.o			
John Shothose 6 D.o			
Samuel Newbould 6 D.o			
Gett the quest Stone & shueling D.o off	2	8	
To getting 7 Kilns of Stone @ £1 p.o 6 p.r kiln	7	3	6
To the Gin lad 7 days		3	6
To the carriage of 7 Wagon load of slack @ 1/6	1	8	
To D.o of 4 Cart load of D.o @ 2/3		9	
To a Tin to oyl the Movements of y.e Water wheel		1	6
To a Saw, spoke shave & Gimblets		3	8
To 6 Women 1 day each picking small Stone		3	
To washing the Works 2 sundays		2	
	12	2	2
The Coal Acct to 10th April	33	8	1
To Ballance the last months Acct	78	2	8
	£123	12	11

1779 April	Per Contra Cred.r	Cash rec.d	Credit
1st	By one Cart load of Lime to y.e Kilns		7/
3	By one Kiln of Lime for your Lordship		4/16
	By one Kiln of D.o to John Shakespear		4/16
	By Cash rec.d for 8 loads @ 14/6	5/12	
4th	By 5 load of D.o for your Lordship		3/10
	By 3 D.o to John Shakespear		2/2
	By 1 Cart load to the Kilns		/7
10th	By Cash rec.d for 13 loads @ 14/6	9/2	
		£ 14/14	
	Ballance due to this day	76/19/11	
		£ 123/12/11	

Staunton lime works accounts 27th March to 10th April 1779



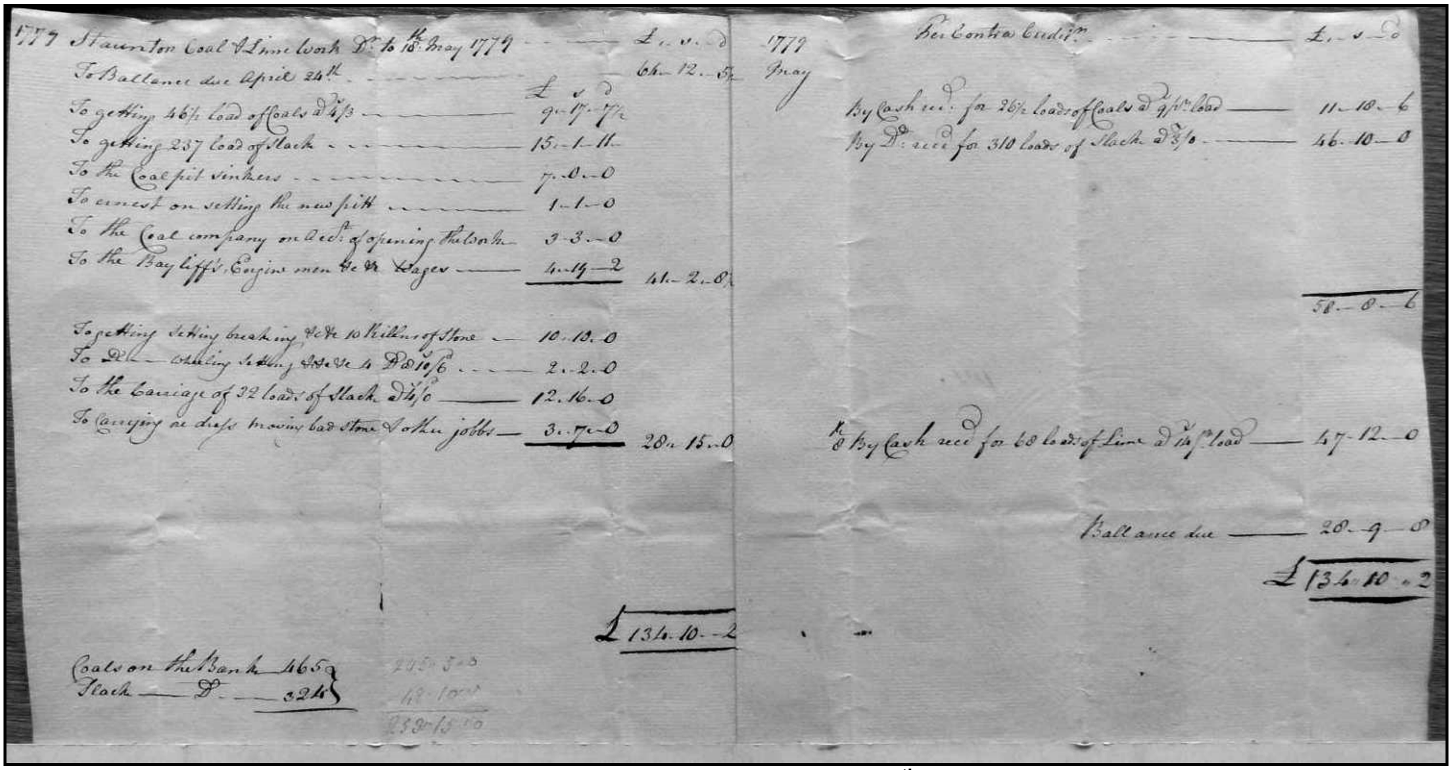
Staunton Colliery D.r to 10th april 1779

	£	s	d
To getting 67 loads of Coals @ 4/3	14	4	9
To getting 65 loads of slack @ 1/6	4	6	8
To sinking 18 Ells for slack @ 5/6	4	19	
To the Calpitt sinkers on Acct	3	12	
To the Enginemen 2 Weeks Wages	1	12	
To Peter Hatton 2 D.o	1	1	
To the Ground Bayliff 2 D.o	1	0	
To the Gin horse keeper 2 D.o		12	
To cutting Thorns, Hedging & ditching	1	3	
To gathering Cobbles 13 loads & cutting goss		11	6
To filling a pitt		5	
To 2 lbs of Candles to Engine		1	2
	£ 33	8	1

Remains 390 loads of Coals on the Bank
D.o 547 D.o of Slack D.o

	Cash rec.d	Credit
By Cash rec.d for 171 loads of slack @ 3/6	25/13	
By D.o rec.d for 14 D.o of Coals @ 9/6	6 6	
By 2 D.o to Thomas Richards		/18
Expended at D.o at Staunton House		1/16
D.o 69 loads of slack to y.e Lime work		10/7
D.o 11 D.o to the Engine		3/12
D.o 13 D.o to the Engine		
Due to Cald this Acct	1. 9. 1	
	£ 33/8/1	

Staunton Colliery accounts? to 10th April 1779



1779 Staunton Coal & Lime Work Dr. to 18th May 1779 — £ s d

		£ s d	£ s d
To Ballance due April 24th			64-12-5½
To getting 46½ load of Coals @ 4/3		9-17-7½	
To getting 237 load of Slack		15-1-11	
To the Coal pit sinkers		7-0-0	
To earnest on setting the new pitt		1-1-0	
To the Coal company on Acct. of opening the Work		3-3-0	
To the Bayliffs Engine men &c &c Wages		4-19-2	41-2-8½
To getting setting breaking &c &c 10 Kilns of Stone		10-10-0	
To Do. wheeling setting &c &c 4 Do. @ 10/6		2-2-0	
To the Carriage of 32 loads of Slack @ 4/0		12-16-0	
To carrying ae diess moving bad stone & other jobbs		3-7-0	28-15-0
			£134-10-2

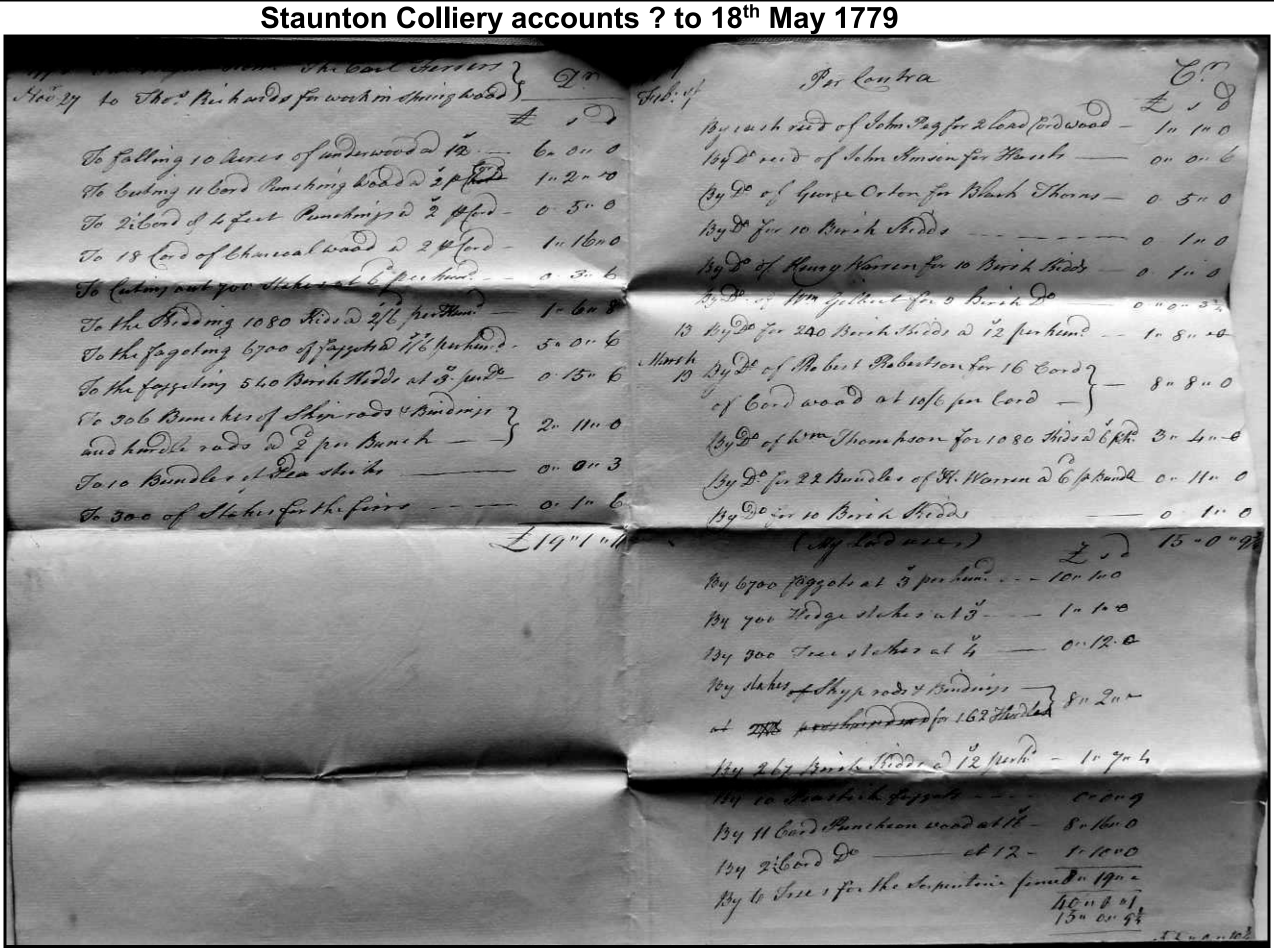
Coals on the Bank 465, Slack Do. 324

235-3-3
48-10-0
283-15-0

1779 May — Per Contra Credit — £ s d

	£ s d
By Cash recd. for 26½ loads of Coals @ 9/- load	11-18-6
By Do. recd. for 310 loads of Slack @ 3/0	46-10-0
	58-8-6
By Cash recd. for 68 loads of Lime @ 14/- load	47-12-0
Ballance due	28-9-8
	£134-10-2

Staunton Colliery accounts ? to 18th May 1779



... The Coal ... Dr.
Nov. 27 to Thos. Richards for work in Spring Wood

	£ s d
To falling 10 Acres of underwood @ 12	6-0-0
To Cutting 11 Cord Punching Wood @ 2 pr Cord	1-2-0
To 2 Cord of 4 feet Punchings @ 2 pr Cord	0-5-0
To 18 Cord of Charcoal wood @ 2 pr Cord	1-16-0
To Cutting out ... Stakes ... @ 6 per hund.	0-3-6
To the Ridding 1080 Ridds @ 2/6 per Hund.	1-6-8
To the fagoting 6700 of faggots @ 1/6 per hund.	5-0-6
To the faggoting 540 Birch Ridds at 3d. per Do.	0-15-6
To 306 Bunches of Ship rods & Bindings and hurdle rods @ 2 per Bunch	2-11-0
To 10 Bundles of Pea sticks	0-0-3
To 300 of Stakes for the fires	0-1-6
	£19-1-11

Per Contra Cr.

		£ s d
Feb. 4	By cash recd. of John Pag for 2 load Cordwood	1-1-0
	By Do. recd. of John Simson for Hazels	0-0-6
	By Do. of George Orton for Black Thorns	0-5-0
	By Do. for 10 Birch Ridds	0-1-0
	By Do. of Henry Warren for 10 Birch Ridds	0-1-0
	By Do. of Wm. Gilbert for 3 Birch Do.	0-0-3½
13	By Do. for 240 Birch Ridds @ 12 per hund.	1-8-0
March 19	By Do. of Robert Robertson for 16 Cord of Cord wood at 10/6 per Cord	8-8-0
	By Do. of Wm. Thomson for 1080 Ridds @ 6 pr.	3-4-0
	By Do. for 22 Bundles of H. Warren @ 6 pr Bundle	0-11-0
	By Do. for 10 Birch Ridds	0-1-0
		15-0-9½

(My hand use,) — £ s d

	£ s d
By 6700 faggots at 3 per hund.	10-1-0
By 700 Hedge stakes at 3	1-1-0
By 300 Tree stakes at 4	0-12-0
By stakes, Ship rods & Bindings at ... for 163 Ridds	8-2-0
By 267 Birch Ridds @ 12 per hd.	1-7-4
By 10 Heathick faggots	0-0-9
By 11 Cord Puncheon wood at 16	8-16-0
By 2 Cord Do. at 12	1-10-0
By 6 Trees for the Carpenters ...	1-19-0
	40-8-1
	15-0-9½

People recorded in the preceding accounts, who were working at the lime works or Colliery in 1779 were:-

John Jackson, Thomas Whyman, Thomas Osborn, John Bonnet (Bennet?), Robert Morley, Jonathan Wilson, Joshua Wardell, William Warren, William Rowley, John Shorthose, Samuel Newbold, George Curzon, Peter Hatton, Alis Sharp.

People appearing in the accounts as customers:-

John Peg, George Orton, John Henson, Henry Warren, William Gilbert, Robert Robinson, William Thompson, Mrs. Newcombe, Mr. Ward.

Interesting extracts from the preceding accounts:-

Six women 1 day each picking small stone	£0. 3s 6d.
The carriage of 20 loads of slack at 4s. per wagon	£4 0s. 0d.
Tin of oil for the movement of water wheel	£0 1s. 6d.
To the gin lad for 7 days	£0 3s. 6d
6 men for 6 days at 16d. per day for getting the great stone and wheeling it off	£2 8s. 0d.
To getting, breaking and setting 6 kilns of stone at	£1 0s. 6d per kiln:-
	£6 3s. 0d.

For getting and loading bad stone for the roads:-

William Rowley 11 days		
John Shorthose 11 days		
Jonathan Wilkins11½ days	all at 16d. per day	Total
Joshua Wardell 11½ days		£3 14s. 8d
George Curzon 11 days		

To the Bailiff two weeks wages	£1 1s. 0d.
To the Blacksmith three and half days wages	£0 7s. 0d.
To the Mould (mole??)	£0 2s. 6d.
To getting 7 kilns of stone at £1. 0s. 6d per kiln	£7 3s. 6d.
To getting 81½ loads of coal at 4s. 3d. per load	£17 6s. 4½d.
Purchase of 1 kiln of lime for his lordship	£4 4s. 0d.
To drawing 5 best loads of lime for your lordship	£0 2s. 6d.
Purchase of 1 kiln of lime for John Shakespeare	£4 4s. 0d.
To 2lbs. of candles to the engine	£0 1s. 2d.
To watching the works two Sundays	**£0 2s.0d.**
Lime for your Lordship from 1st Oct to 24th Apr 1778	£34. 2s. 0d.
Purchase of 6,700 faggots at 3d. per bundle	£10 1s. 0d

(Faggots are sticks of wood bundled together – Thomas Richards received £5. 0s. 6d wages for the faggoting of these in Spring Wood).

Purchase of 11 cords of puncheon wood at 16s each	£8. 8s. 0d.

(Thomas Richards received £1. 2s. 0d. in total at 2s. per cord, for getting from Spring Wood with 11 pieces in each cord. The cord is a unit of measure of dry volume).

THE SIX LIME KILNS ON THE CALKE SIDE OF DIMMINSDALE

The author has found very little research material on the limestone workings on the Calke side of Dimminsdale, however, the six lime kilns which were built to the north of Red Brook are shown on the 1883 Melbourne parish map below. Evidence of these alongside the pathway are still visible at Dimminsdale and they iare shown in the following recently taken photographs.

The author has found no references to the buildings on this site, although it is thought that the most northerly of those was a lead smelting cupola furnace similar to the Staunton one located in Spring Wood which features later.

The author is assuming that these kilns were built at a similar time to that when the Boultbee kilns were being built, details of which follow in Part 8.

EVIDENCE OF THE SIX LIME KILNS ON THE CALKE SIDE

This is the fifth from the left of the six kilns shown on the preceding 1833 Melbourne Parish map. These were on the Harpur-Crewe (Derbyshire) side of Red Brook. They are adjacent to the public foot path which can be seen in the background.

View of the same kiln taken from the laundry pool side

Enlarged view at the base of the tree showing the remaining stone lining

General view of filled in arched access to kiln with enlarged view to the right

The above photograph shows what can be seen of the inside of the archway where the lime was raked out.

PART 8

RECORDS OF THE FIRST LESSEES OF THE EARL'S FERRERS DIMMINSDALE LIME AND LEAD WORKS – JOSEPH BOULTBEE (SENIOR & JUNIOR), JAMES ORME AND WILLIAM MATHEWS (THE LEASES ALSO INCORPORATED COAL MINING, AND/OR FARMING RIGHTS)

JOSEPH BOULTBEE - LESSEE

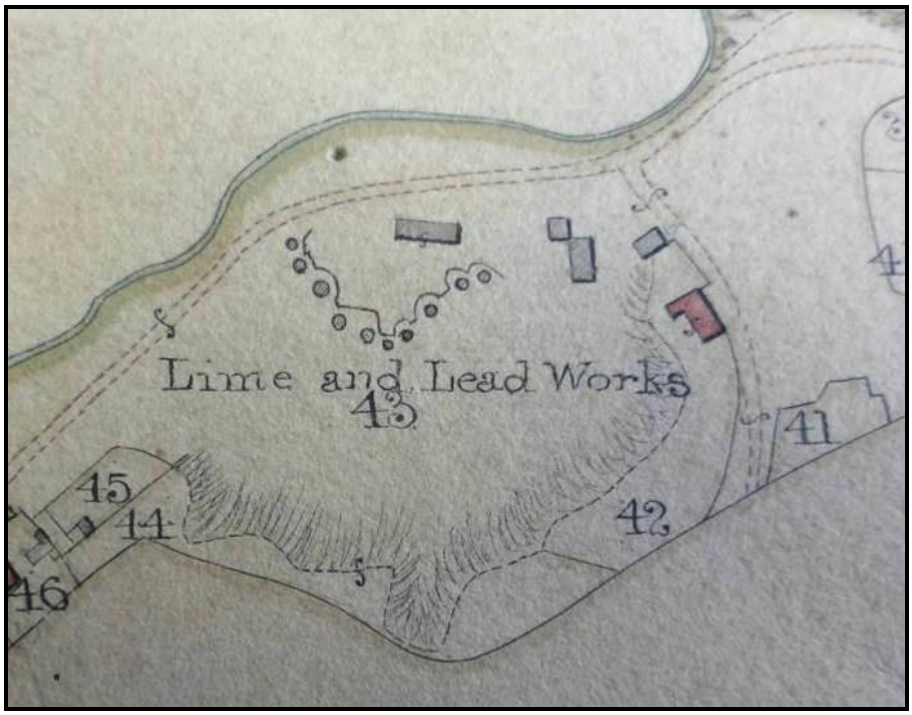
In 1788, Joseph Boultbee took out a lease for 21 years wih Earl Ferrers for an annual rent of £315. This entitled him to work a lime and lead works at Dimminsdale, and (a) building for a smelting house for the processing of lead ore *(already in existence we believe and is featured later*) on Staunton Common, plus 30 acres of land. Boultbee was granted full access and mining rights for both lime and coal, and the right to extract clay in order to make bricks for the colliery, to use water from one of the pools (see later feature on the water wheel) to work the pump for the lime works, and to use up to 21 cords of wood per annum from the estate. He was entitled to use all the existing equipment in the colliery and the lime works on condition that he returned them in good order when the lease expired. The agreement gave Boultbee a monopoly of coal mining throughout Newbold, Lount, Staunton, Heath End and a large part of Coleorton. He was also granted the right to "erect and build a fire engine or fire engines" This original lease is held at the L&RRO.

Joseph senior died on the 25th of September 1789 and the lease was then taken over by his only son Joseph junior.

Joseph Boultbee senior, in 1757, succeeded Gervase Yarwood as Sir George Beaumont, 7th baronet of Coleorton's Steward / Land Agent, and both father and son accumulated a large fortune, leasing coal mines from Beaumont. Due to mismanagement of the Beaumont's estate and coal mines, Sir George instigated legal proceedings against Boultbee junior in 1800. This resulted in him having to pay Beaumont £15,000 compensation in 1802 as decided in the Court of Chancery. **The full and interesting story of events can be found in the book entitled "Coal Mining in Coleorton & the Local Area" by Samuel T Stewart**

Joseph Boultbee junior continued to operate the lime works and colliery on Ferrer's estate, but in 1793 he offered the lease for the lime works to the Ashby Canal Company for £450 p.a. providing he was allowed "**to supply the twelve lime kilns with sleck"** (slack coal). For obvious reasons this was turned down. As well as his coal mining operations on the Ferrer's estate, Boultbee continued to operate his own coal mines in Lount and Pegg's Green till his death at the end of 1806. Boultbee of course owned the manor's of Pegg's Green and Thringstone, and the rights to mine the minerals underneath, the former being purchased from Raper and Fenton. He actually died a wealthy man and passed his lands, properties, coal mines, shares etc., onto his five sons Joseph, Thomas, John, William and Charles **with only John receiving the leasehold for the limeworks etc., at Dimminsdale described above.**

THE TEN LIME KILNS BELIEVED TO HAVE BEEN ORIGINALLY CONSTRUCTED DURING JOSEPH BOULTBEE JUNIOR'S TENURE OF THE LIME & LEAD WORKS BETWEEN 1788 AND 1809.



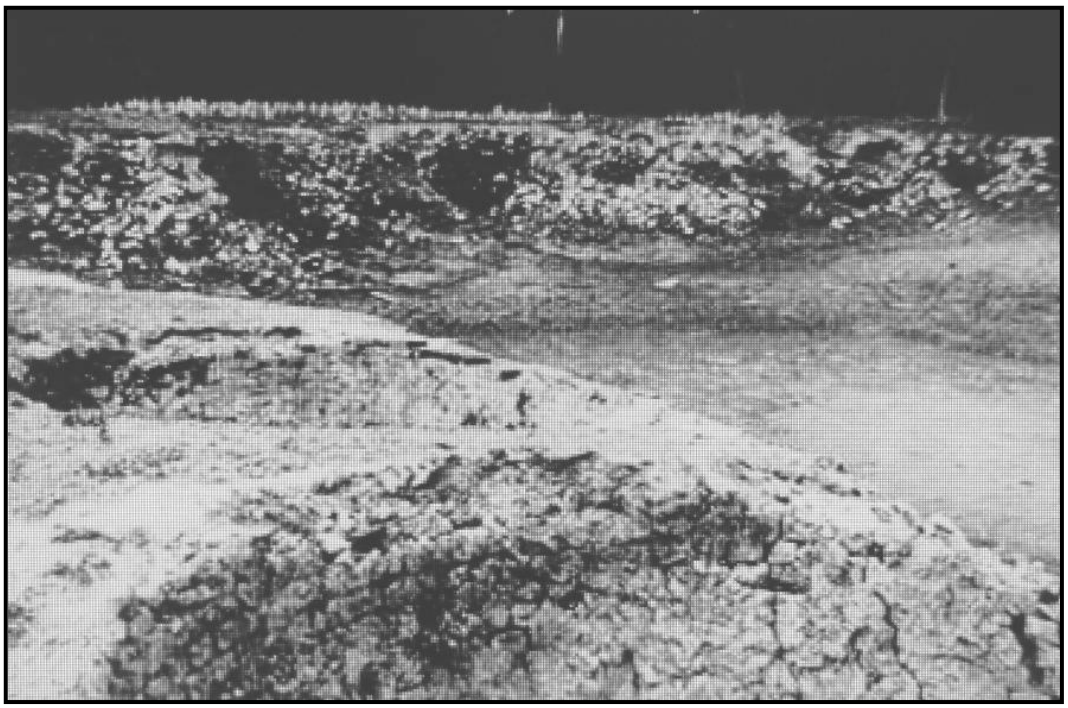
Extract from the 1859 Staunton Harold estate map showing the ten lime kilns at Dimminsdale on the Staunton Harold / Earl Ferrers side

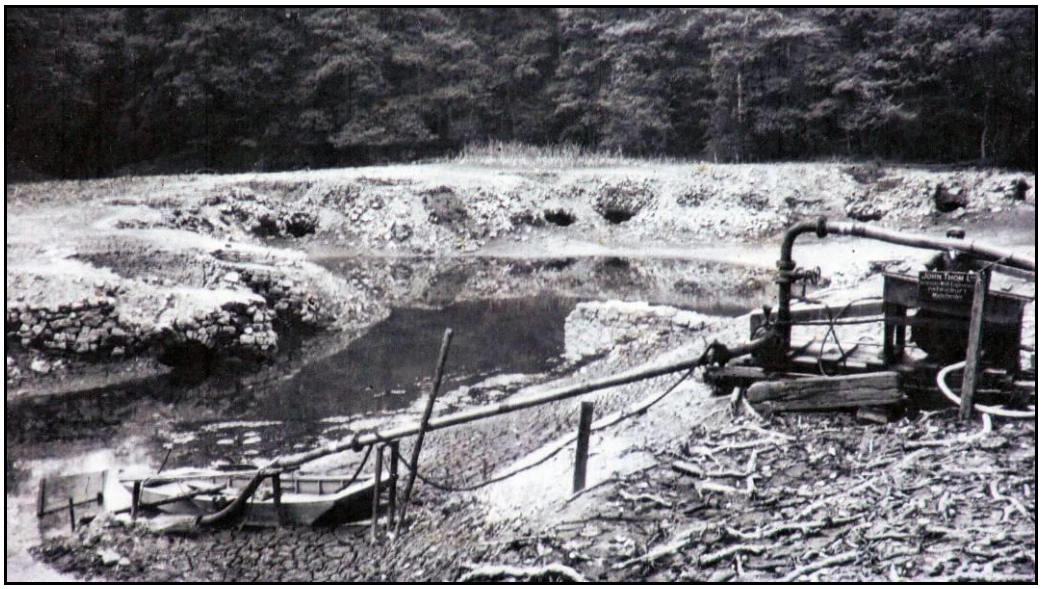
Following an intensive walking study of the site, we can find no existing physical evidence of these ten kilns now, and the position of them on the above map demonstrates that their remains are now below the murky waters of Laundry Pool.

Further proof of this is provided by the following photographs of the kilns taken when Laundry Pool was drained in 1939 which is described in the following article by Robert Bignall. The point of the Vee in the above plan is actually to the left centre on the first photograph ie: the kilns are being viewed from the west. The insides of two of the kilns can be seen in the bottom half of the photograph and on the far side of the vee the archways to the kilns can be discerned.

The second photograph shows a stone archway in one of the kilns where the processed lime was raked out.

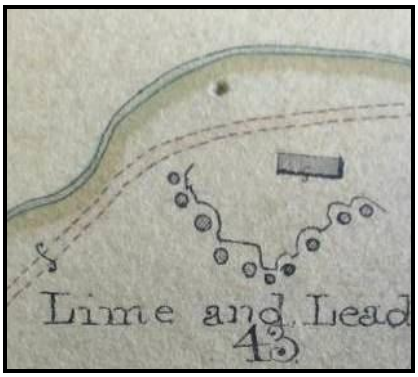
PHOTOGRAPHS OF SOME OF THE TEN LIME KILNS REFERRED TO ABOVE WHICH WERE REVEALED WHEN LAUNDRY POOL WAS DRAINED





STONE BUILDING

Stone foundations of the large building which stood in the vee of the kilns (**see section of 1859 Staunton estate map**) can still be seen which is estimated at some 10m long. It is highly likely that this was initially used for the storage of processed lime.

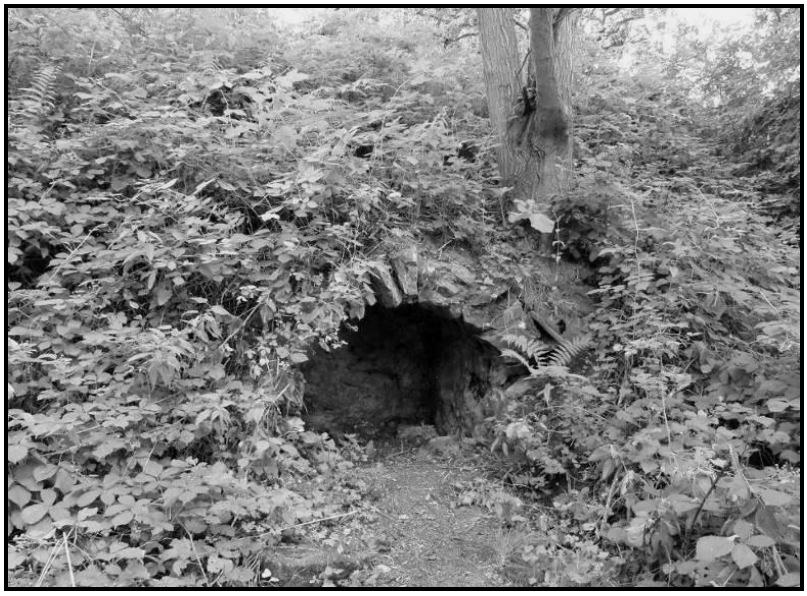


Part of the stone foundations

RED BROOK

The dried up brook with steep embankments, which would have been stoned originally, can still be seen. Presumably this was deepened in the area of the kilns and the banks reinforced with stone to prevent ingress of any water into the area of the lime kilns. At some later time, the brook was diverted from its original position for some reason, presumably by the water board during the construction of the reservoir.

A MYSTERY STONE ARCH AT DIMMINSDALE



Above is a recent photograph taken at Dimminsdale of a stoned arched entrance on the eastern rim of the quarry with extended block stone work to one side for several feet. Like many other important buildings which were razed to the ground by the water board during construction of the reservoir, this would have also been affected.
Many hand-me-down hearsay explanations have been given for this building; some it seems are rather fanciful. The least likely we believe is that it was the lavatory for Laundry House & the adjoining cottage which stood opposite it, which would have been built at a later date anyway. A few feet to the right of the archway, there are remains of brick built foundations about 6ft square with evidence of ridge and roof tiles lying on the floor. We feel that this was more likely to be the lavatory and the construction in the type of bricks and tiles used fits in with the time Laundry House & the adjoining cottage would have been built.

The author is of the opinion that this is the remains of an early lime kiln probably built by the 5th Earl Ferrers even before Joseph Boultbee took out his lease in 1788 and was probably one of two built in close proximity, prior to the ten shown on the 1859 estate map on the north side of the site opposite the quarry face, bearing in mind that in 1793 Boultbee offered the lease for the lime works to the Ashby Canal Company for £450 p.a. providing he was allowed "**to supply the twelve lime kilns with sleck***"* (Presumably this was the 10 kilns shown on the 1859 estate map plus 2 including the one above). On one side of the archway stone blocks run for several feet, but without serious archeological investigation there is no further supporting evidence. We must remember that a deep quarry would not have been excavated at the time this lime kiln would have been built, so access to it would have been fairly straight forward. The archway entrance was where the lime would have been raked out has been blocked off for safety reasons presumably, probably by the water board when the reservoir was being built in the 1960's

John Blunt, the current owner of Staunton Harold Hall, informed us that when attending a conducted history tour around Dimminsdale many years ago, given by Doctor Robert King, he stated this had been used for the safe storage of gunpowder, presumably used in blasting at the Dimminsdale Quarry and the local coal mines at Heath End. Gunpowder was introduced c.1775, and it is quite possible that this disused lime kiln was used for that purpose following the building of the 10 new lime kilns.

An etching from W. H. Pyne 1806 of a typical Field Lime Kiln with fuel being brought by packhorse. It is not difficult to visualise that this may have been typical of the first kilns built by Earl Ferrers, which bears some relation to the mystery stone arch.

A SYNOPSIS OF AN INTERVIEW CONDUCTED WITH ROBERT BIGNALL OF HOME FARM, STAUNTON HAROLD IN THE EARLY 1960'S

This is taken from an old newspaper cutting thought to be from the early 1960's as mention is made of the Staunton Harold reservoir.

In 1938/9, Earl Ferrers (*would have been the 12th Earl Ferrers, Robert Walter Shirley*) applied to have the lime pits pumped dry with the hope that unworked veins of the valuable lead containing ore might remain in sufficient quantity to justify a reopening of the mine. He was encouraged in this belief by old writings and accounts, which had remained in his possession since the workings were closed in the latter part of the 19th century. According to these records, the reason why the pit was closed, was that there was a dispute over wages. His forefathers had refused to pay the increased demand, and had preferred to let the old mine "drown out" in the water which the pumps continually kept at bay. It was generally believed in the district, that further deposits, quite possibly a potential source of good profit had been engulfed in the flood. There were stories that all the lead on Staunton Harold roof had come from the mine. Be that as it may, the Earl was optimistic about the prospect of wealth under his estate. One of his workmen however told him:- "The only lead in the park my Lord is on your roof". Nevertheless, he called in a firm of pumping contractors, and the water was pumped away for weeks into Red Brook. With the progress of the pumping, carried out from the deep pits at the rear of the estate laundry, strange things began to happen in the park. Patches of turf began to sink, and finally holes appeared. They were the old shafts that once ventilated the workings. The release of the water pressure below had taken away their support, causing them to collapse. As far as I can gather, the pumping was never quite completed. The deep pit basin which once formed the entrance remained partly inundated even at the end of the de-watering programme. Lord Ferrers decided that at this point, the workings had been largely drained, and that access could be gained from one of the ventilating shafts. Accordingly men from the estate, including Mr. Bignall, were persuaded to become temporary miners. They worked to timber up the shafts, and make them safe for descent. Finally, when everything had been made secure, a few of the more adventurous spirits, volunteered to explore the mine.

It is hard to imagine the late Earls disappointment when they came out and told their story. It was clear that all the lead had been taken. They followed 40 different passages that had been scooped out in the limestone by the miners, who years earlier had tracked down the veins of metal till they had expired. Every tunnel became narrower and narrower, and terminated in a mere crevice, where the last extremities of the precious seams had been winkled out.

Disillusioned by the failure of his speculation, which had probably cost thousands of pounds, the Earl demanded to be lowered down the entrance shaft in a basket so he could see for himself. But, he suffered throughout his life from the crippling effects of an early bout of polio, and he was persuaded not to take the risk. The final chapter of the epic of Staunton Harold valley was written by the waters, as they seeped in and sealed the mine forever…….

There are still people who talk about what they saw under the park when the mine was briefly drained, if not dry. "I was not one of those who went down, but those who did told me that there were miles of underground passages, forty of them radiating from a central marshalling yard. It was so big; it would have been possible to play a game of cricket from there".

I believe that during the war, there was another proposal to drain the underground maze. This was not with the idea of winning some mythical remaining lead, but to provide a safe ammunition dump. The plan was never carried out.

The above photograph was taken in the bottom of Laundry Pool in 1941/2. The truck has a haulage chain attached to it. This was possibly part of the operation to investigate a safe ammunition dump as mentioned in Robert Bignall's article. The photograph is from the reminicences of Joan Jackson which was included in the Autumn 1990 newsletter from the "Leicestershire and Rutland Trust for Nature Conservation" who have kindly given permission to include the photograph here.

JAMES ORME - LESSEE

Washington Shirley, 5th Earl Ferrers died on October 1st 1778, and the estate was inherited by the 6th Earl Ferrers. However, we know that the 5th Earl's financial affairs were in a parlous state following his death, and this seems to be further confirmed by the fact that an administrator was still running the works in April 1781. There follows a newspaper article which appeared in the Derby Mercury on 6th April 1781 which is of interest, particularly as it also mentions James Orme as the Steward, who we had previously assumed did not have any involvement at Staunton till he took out a lease in 1791, details of which follow later. Evidence in papers at the LRO confirms that John Newcomb was Earl Ferrer's steward in 1780, a position he had held for a number of years.

DERBY MERCURY NEWSPAPER ARTICLE
THIS IS TO GIVE NOTICE

To all persons who are indebted to the estates and effects of the late Washington Earl Ferrers, or to me, for lime or coals, or anything else, that Mr. Charles Wager (who lately took care of my lime works) is no longer in my service, and that whatever money is, or may be due to me, as Administrator of the late Washington Earl Ferrers, or on my own account, I do hereby require the same to be paid without delay, to me, or my present steward, Mr. James Orme, whose receipt will be mine for the same, but no other will be taken, as witness my hand this 8th day of April 1781.

James Orme, Esq., of Sutton Bonington, Nottinghamshire appeared to be leasing and farming the Ferrer's estate at Sutton Bonnington, when, on March 31st 1791, he took on an annually renewable lease for the rent of a farm at Staunton Harold with numerous parcels of land which included **3 Acres at Dimminsdale**. The lease states that Orme has the rights to open up all mines of coal and all delphs and quarried stone, with free liberty to take away and carry away the lead mineral, coal and stone found therein at his and their (Ferrers and his assigns) will and pleasure and also free liberty. He was to pay a yearly rent of £298 7s. 6d (presumably for the farm?), and also an annual sum of £500 (presumably for the mineral rights?). He was also required to pay an extra £10 per annum rent for each acre of land that was turned into arable. Two further counterpart leases in 1794 and 1809 where added to Orme's original lease which gradually increased his farming and mining rights. The original leases are held at the LRO.

The 7th Earl Ferrers and James Orme's signatures and seals on the 1791 lease

When Joseph Boultbee junior took over his father's 21 year lease with Earl Ferrers, he became involved in the legal case with Sir George Beaumont described earlier, so one can assume his mind wasn't focused on his mining responsibilities with Earl Ferrers, and probably the Earl was concerned whether he could trust him based on what had transpired with Sir George Beaumont, 7th baronet. **Although we have no absolute proof, everything points to the fact that Boultbee was probably forced to gradually reduce his mining activities, whilst in parallel, James Orme was increasing his.** There is no doubt that Orme was close to Earl Ferrers, and it is rather interesting to note that in 1794 when the "Ashby Canal Select Committee" was formed, Joseph Boultbee (listed as Banker & colliery owner) and James Orme (Listed as Earl Ferrers Steward) were two of the thirteen members. Boultbee held 10 shares and was equal top with Benjamin Dewes of Ashby, and Orme was second highest with 9 shares. In 1800 Boultbee only held 3 but Orme had retained his 9 shares.

James Orme, Esq was a gentleman farmer, and it seems that he still maintained the Ferrers estate farm at Sutton Bonnington after he took on the Staunton estate lease with Earl Ferrers. There is ample evidence in newspaper reports that he was working a substantial farm there, presumably with a manager in place. Clearly, James Orme had built up a good and trustworthy relationship with the Earls Ferrers over the years and this would of course have given him a good insight into Boultbee's somewhat dubious activities.

The following obituary to his wife in 1811, suggests that James Orme had taken her back to Sutton Bonnington from Staunton Harold to be buried there. The Gentleman's Magazine of 1811, Vol 81, Part 1 includes the obituary under the section on "Remarkable Persons":-

*At Sutton Bonnington, Mrs. Orme, **late of Staunton Harold**, **Leicestershire**, in the humble walk of domestic life, exemplary conduct is rarely found sufficient of itself to excite public attention; yet to whom does society owe its gratitude more than to the good wife and affectionate mother. To contribute to her husbands diligence and ability, that necessary aid which prudence can supply, was the constant exertion of this excellent woman. Anxious that the wills and affections of her offspring should be governed by the will and word of the creator, she neglected not to sow the seed of the virtue and religion in their early years.*

The Nottingham History Website records that James Orme, Church Warden is inscribed on one of the two bells in the church tower at Sutton Bonnington. The Leicester Journal of 21st February 1834 records under deaths– *On Thursday the 13th at Sutton Bonnington, Notts, aged 76, James Orme Esq., sincerely regretted by all who knew him.*

10 months prior to James Orme death, the following synopsis of an article appeared in the London Gazette Pt.1. – page 511:-

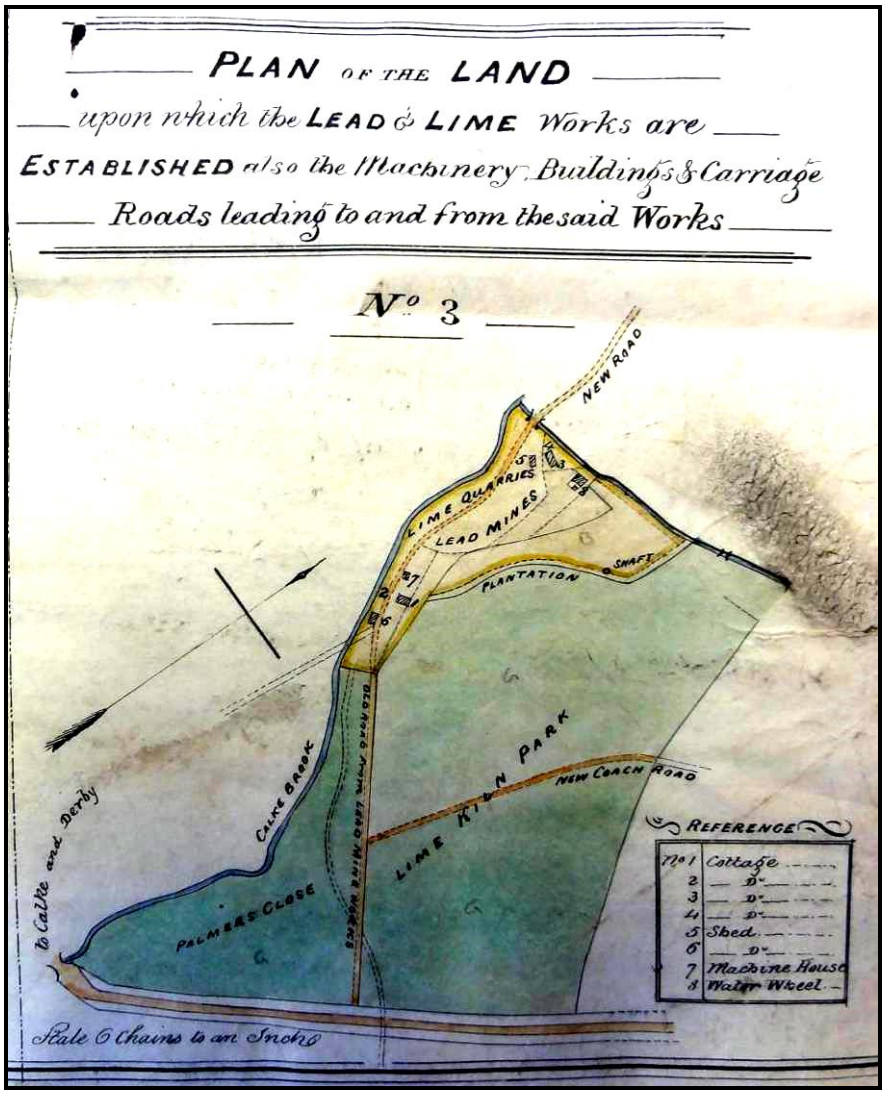
*The late Right Hon. Viscount Tamworth's estates, in the counties of Nottinghamshire, Leicestershire and Stafford are to be peremptorily sold pursuant to an order of the high court of Chancery. This included the land situate in the parishes of Sutton St. Ann, and Sutton St. Michael, within Sutton Bonnington together with the manor of Sutton St. Ann, and the cottages and fishery belonging to the same – **Mr. Orme of Sutton Bonnington** will show the estate, which will be sold on Tuesday 22nd day of April 1833 at the Flying Horse Inn, Kegworth.*

It is clear that James Orme played a major part in the management of both the Staunton Harold and Sutton Bonnington Estates etc., and from his will it is evident that he became quite a wealthy and highly respected man. James Orme appears in other parts of the book in relation to his coal mining activities.

WILLIAM MATHEWS - LESSEE

William Mathews, the Ashby architect, then took over a 21 year lease (1833-1854) in the year prior to James Orme's death. Details of the rather complex legal document between Mathews and Washington Shirley, 8th Earl Ferrers is held at the Leicestershire and Rutland Record Office (25D60/108) and the main points of the agreement are as follows:-

- Lime and Lead works of near Calke Brook, with the pit, hill, kiln and sheds, **water wheel** (see later feature and other appendages).
- All the mines, veins, seams, quarries etc and strata of limestone & lead within the same & certain lands between the works & the N.W. boundary of Staunton Harold Park, called the Lime Kiln Park & Palmers Close of about 60 Acres, (**area coloured green on map below**)
- **Furnace or smelting house for smelting lead ore, and sheds and fixtures to be erected at the joint expense of the 8th Earl and Mathews with material provided by the Earl.**
- 4 Cottages and appurtances and rights of way.
- Rent £72 p.a.



Just after Mathews acquired the lease in 1833, the following advertisement for lime appeared in the press:-

Leicester Chronicle – April 11th 1834

STAUNTON HAROLD LIME WORKS (DIMMINSDALE)

The public are respectively informed that lime may be obtained at the above works at the following prices.

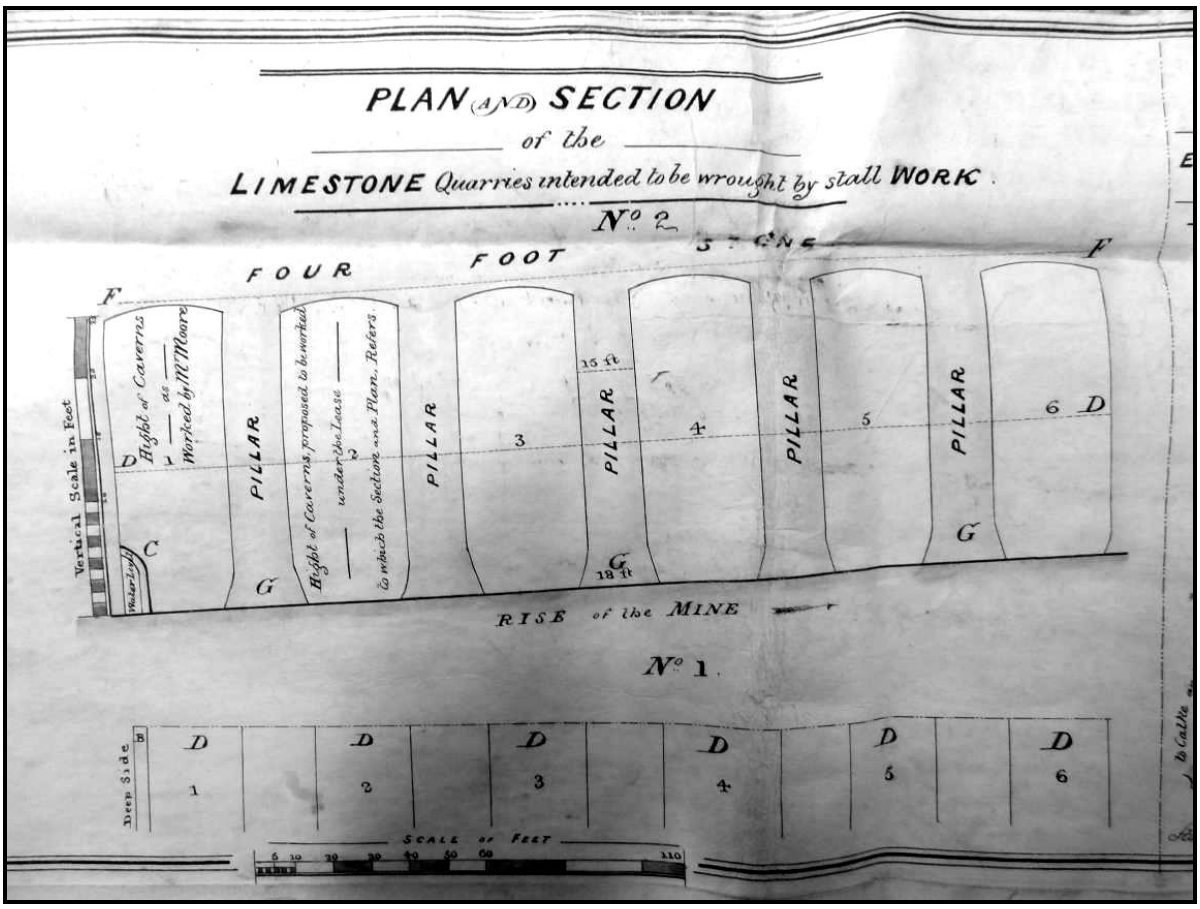
7s 4d PER TON CASH
8s 4d PER TON CREDIT

Orders will be received at the Nag's Head Inn, Derby and at The Plough Inn, Loughborough, on the respective market days; and at the house of **Mr. Mathews**, Ashby de la Zouch
April 7th 1834.

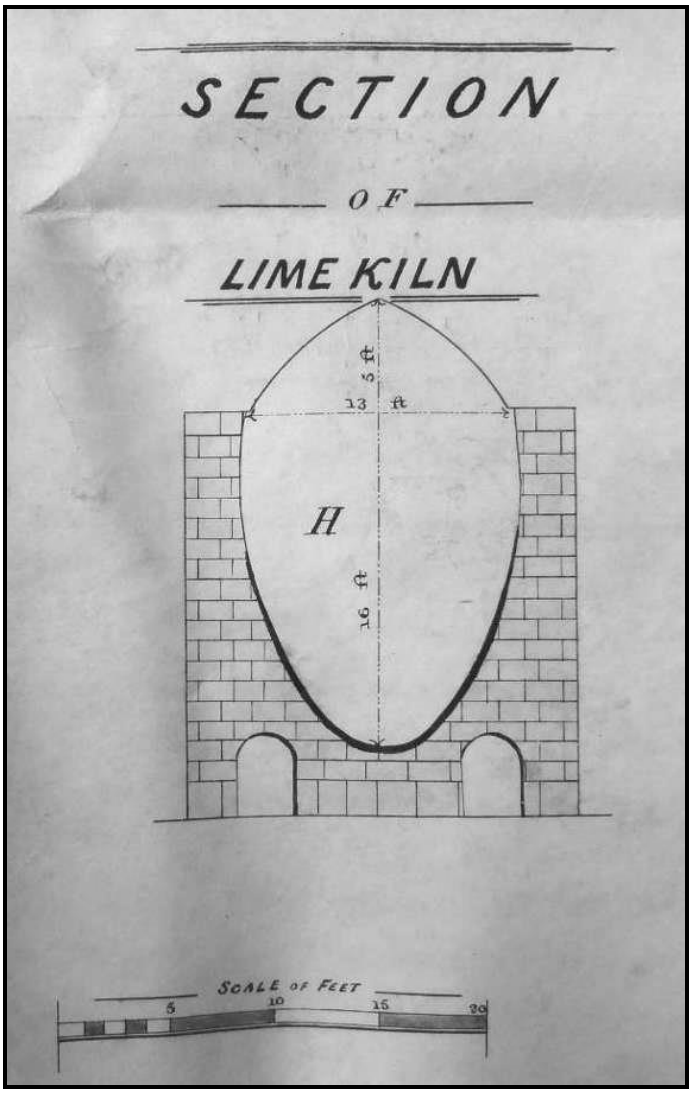
The un-catalogued following were attached to William Mathews lease at the LRO, and shows the proposed dimensions and layout for the Dimminsdale lime work caverns up to the 4ft stone seam and was presumably drawn at that time, probably by William Mathews, being an architect.

The plan clearly shows proposals for the expansion of the limestone quarries by the pillar and stall method of working, using six cavern entrances.

It is recorded on the map that a Mr. Moore was working the first cavern at this time.



He above was the second half of the plan shown on the preceding page



The above illustration is an extract of an un-catalogued drawing also attached to William Mathews 1833 lease, the purpose of which appears to be to specify the internal dimensions / volume of a kiln to meet the following specification……..”*that as the general mode for ascertaining the number of tons of limestone gotten at Staunton Harold and at the adjoining works (of a similar kind) from time to time is by the quantity or number of kilns of lime sold, each kiln containing by measurement, 1,248 cube or solid feet including the up heaping of the same as per the dimensions and figures upon the plan at H and as the contours in cube measurement of the said kilns are the basis upon which the charge for mine rent is founded, it will be necessary and proper that the dimensions of the said lime kilns should remain as at present during the demised term, but if by future experience it shall hereafter be found that the larger or smaller limitations will answer better both for lessoirs and lessees than the present limitations now upon the works in such case such alterations may be made provided that the calculations as to the contents of the same be made upon the date above set forth at present, each kiln holds 30 tons of limestone, therefore any reduction or addition relative to dimensions may be easily accounted for”.*

BREAKDOWN OF COSTS FOR PRODUCTION OF LIME – c.1850

Having studied three records dated c.1850, the following is an attempt at breaking down the costs for the production of lime, and the subsequent profit obtained from the kilns at Dimminsdale:-

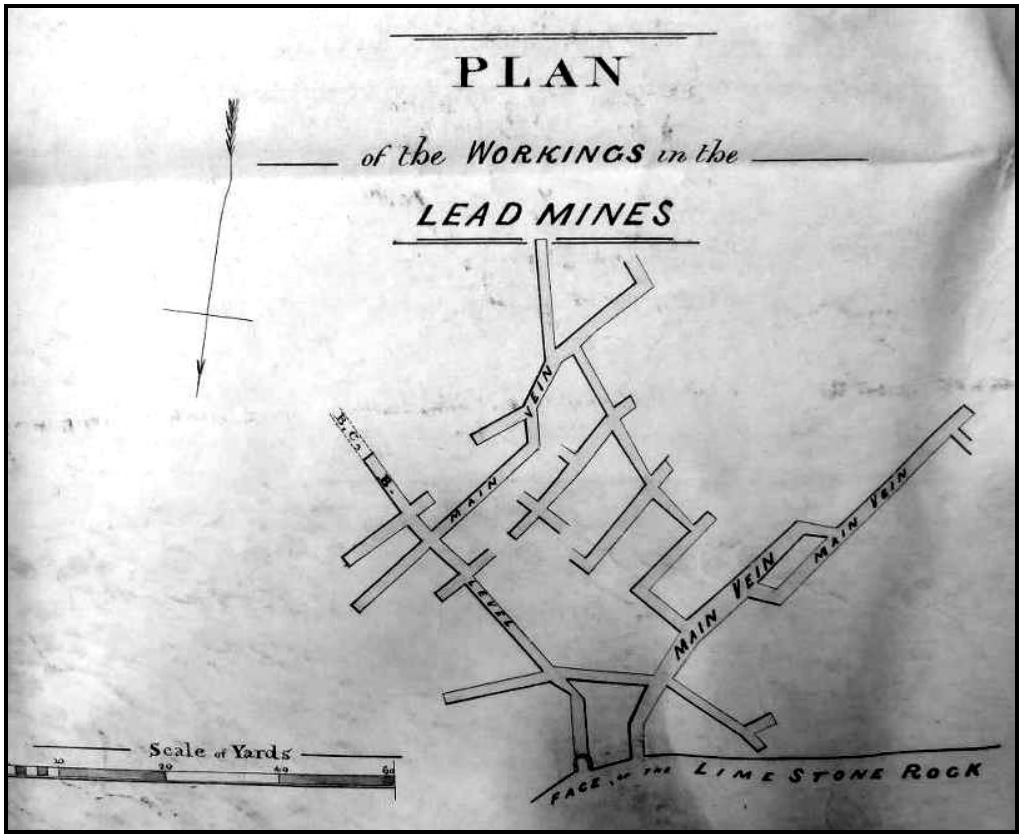
- Each Kiln was charged with 30 tons (22 cubic yards) of lime stone and 11 tons of slack coal in layers, together with various amounts of cording wood.
- Various amounts of powder (what was this?) was also added to the kiln.
- This produced between around 20 tons of lime.
- The lime was sold at around 7s. per ton
- 2 of the kilns appeared to produce a profit of around £2 per kiln but the 3rd was only 4s. 6d. This is mainly because the 2 kilns showing £2 profit were paying on average 3s. per ton for slack coal and the 3rd one is showing 6s. per ton for Lount slack coal.
- Lime stone varied between 8d. per ton and 1s. 3d.
- 2 men to fill kiln recorded as earning 5s.
- Women were also employed in filling the kilns.

There follows an un-catalogued record held at the L&RRO of an insurance policy taken out with the “County Fire Office” by William Mathew’s on Lady Day 1853, which relates to buildings and property he was leasing at Dimminsdale. The cover was for loss or damage by fire:-

- On a dwelling house and out offices communicating detached in tenure of Jno (Jane?) Smith.
- On stable and calf house adjoining near the above.
- On a Wagon Shed, Laundry and Granary over all communicating near a pipe stove in Laundry.
- On a barn chock room, cow sheds and stables all adjoining the above.
- On three cottages under one roof detached from the above brick and thatch near in tenure of labourers in equal proportions.
- On two cottages under one roof, one occupied as an office in the lime yard near private……in equal proportions
- All brick, stone and tile except otherwise incutioned and situated Staunton Harold, Leicestershire

Lead Mining at Dimminsdale is featured in PART 11

A SERIES OF PLANS OF THE STAUNTON SIDE OF THE QUARRY



The above un-catalogued plan was attached to the William Mathews lease and shows an area of lead ore workings. This seems to bear no relationship to the following abandonment plan of the quarry or the plans drawn by Woodhouse & Jeffcock in 1853. The direction of the arrow pointing north when aligned with the abandonment plan makes it impossible to relate the above to the quarry face as it is portrayed in those plans. It seems to suggest that the mining for lead was taking place in a different area at that time possibly towards the eastern face area of the quarry face.

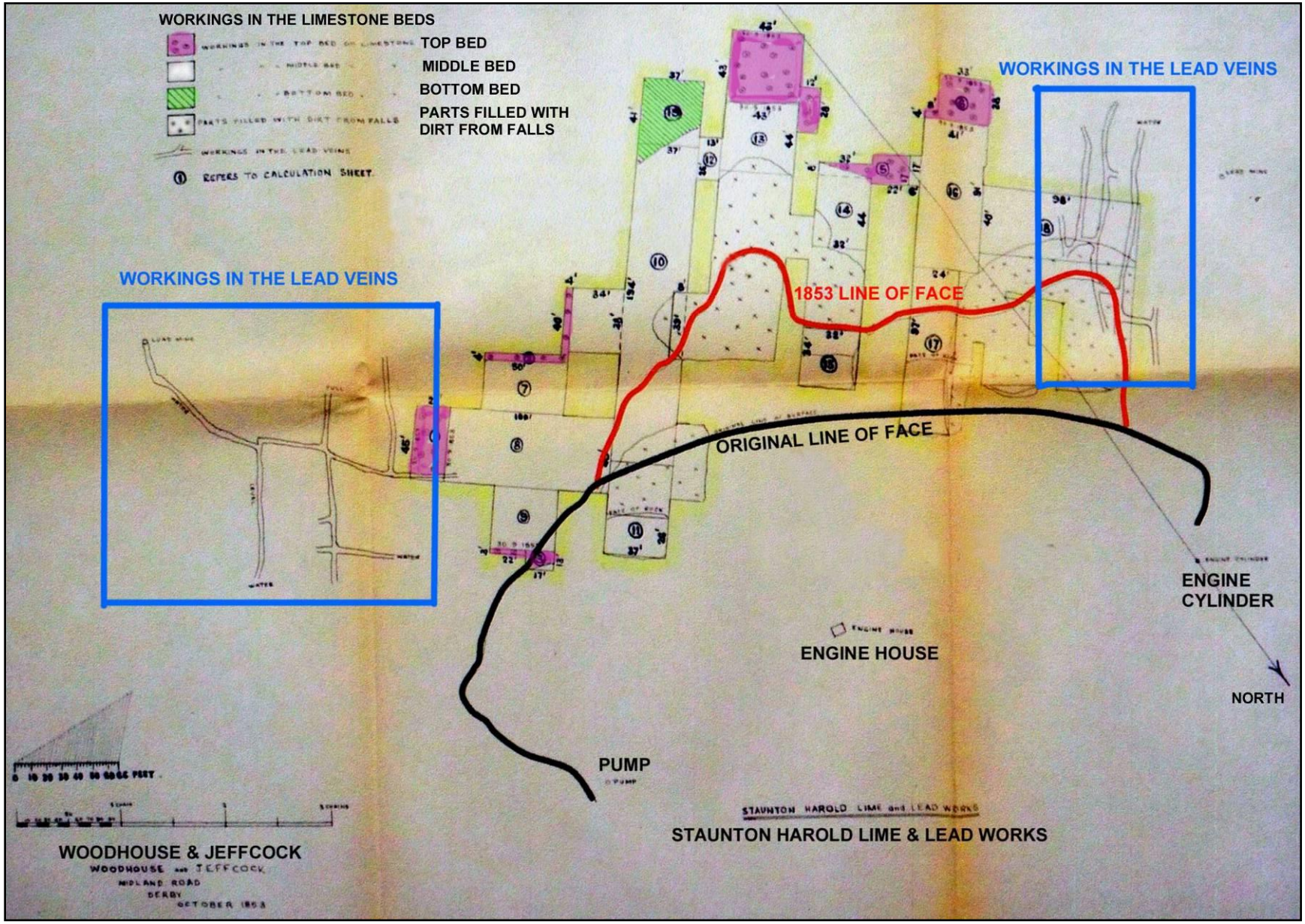
The following plans are:-

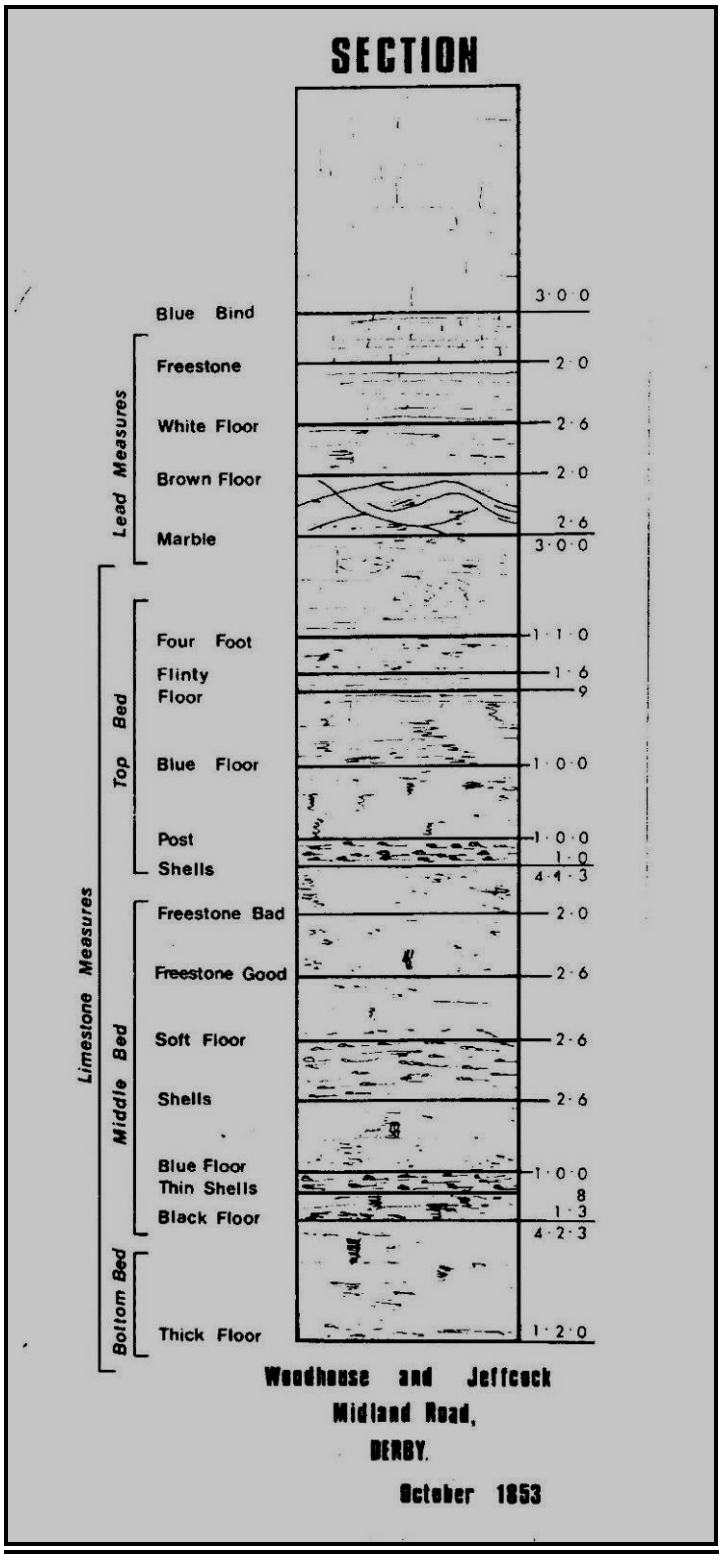
1. **A section from the original quarry abandonment plan R118E by Woodhouse & Jeffcock of Derby, mining Surveyors (L&RRO)**

2. **The plan drawn by Woodhouse & Jeffcock, 1853 (L&RRO)**

3. **Section through the strata of the quarry by Woodhouse & Jeffcock, 1853. (L&RRO)**


LEAD MINE
1853 LINE OF FACE
LEAD MINE
ORIGINAL LINE OF FACE
ENGINE
CYLINDER
MACHINE HOUSE
NORTH
PUMPS

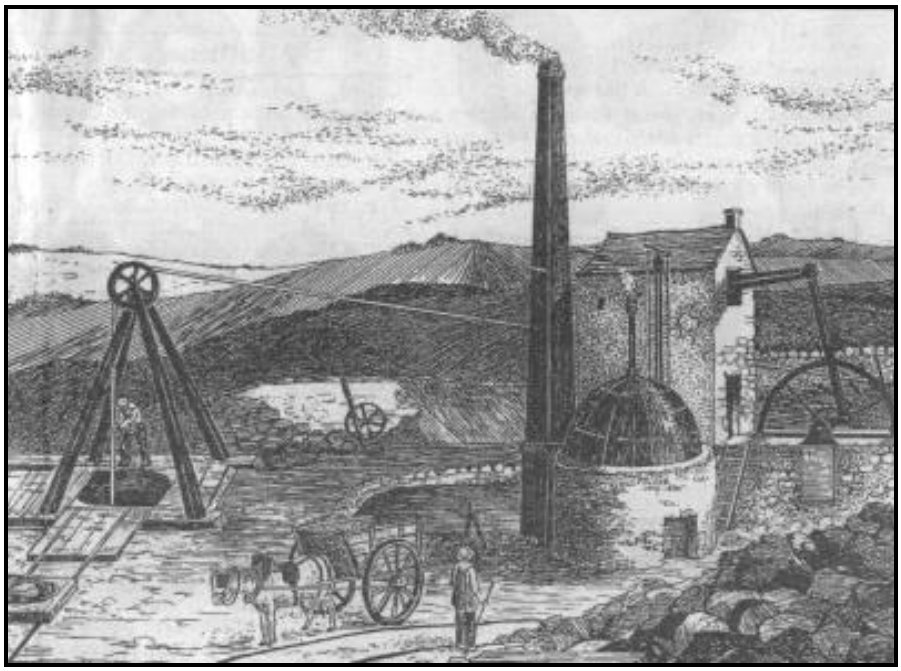

WORKINGS IN THE LIMESTONE BEDS
TOP BED
MIDDLE BED
BOTTOM BED
PARTS FILLED WITH DIRT FROM FALLS
WORKINGS IN THE LEAD VEINS
WORKINGS IN THE LEAD VEINS
1853 LINE OF FACE
ORIGINAL LINE OF FACE
ENGINE CYLINDER
ENGINE HOUSE
NORTH
PUMP
WOODHOUSE & JEFFCOCK
STAUNTON HAROLD LIME & LEAD WORKS


SECTION
Blue Bind
3·0·0
Freestone
2·0
White Floor
2·6
Brown Floor
2·0
Marble
2·6
3·0·0
Four Foot
1·1·0
Flinty
1·6
Floor
9
Blue Floor
1·0·0
Post
1·0·0
Shells
1·0
4·4·3
Freestone Bad
2·0
Freestone Good
2·6
Soft Floor
2·6
Shells
2·6
Blue Floor
1·0·0
Thin Shells
8
Black Floor
1·3
4·2·3
Thick Floor
1·2·0
Lead Measures
Top Bed
Middle Bed
Bottom Bed
Limestone Measures
Woodhouse and Jeffcock
Midland Road,
DERBY.
October 1853

A painting which is thought to be of Dimminsdale Lime and Lead Works Quarry. Which is now filled with water and known as "Laundry Pool". The original painting is currently in the possession of the Leicestershire County Council Museum's Service. Copyright is owned by the originator. Artist unknown.

Enlarged view of winding engine house on the top rim of the quarry, which also depicts a semi-circular haystack boiler (see following text).

When Joseph Boultbee took out the lease for mining rights at Dimminsdale in 1788, it was about thirteen years after serious attempts at lead and lime working commenced at Dimminsdale. Boultbee had considerable experience in the coal mining industry and was already using newcomen steam engines in his coal mines, and it is highly likely that the one on the quarry rim would have been introduced by him for the winding up of the lime and lead ore to the surface via a Whimsey. The newcomen steam engine lower down in the quarry was introduced at a later date and was used for pumping out the water from the quarry, as we know that a water-wheel to operate a pump to do this work was used initially.



The above illustration of a Whimsey used in a coal mine resembles the one located on the rim of the Dimminsdale lime and lead works .

The following is an extract taken from an article by Marilyn Palmer & Peter Neaverson entitled “The Early Years of Steam power in Leicestershire”:-

Further evidence of the late use of the Newcomen engine in north-west Leicestershire is provided by a painting now in Leicestershire Museums' New Walk Gallery. This is of unknown date or artist, but appears to be the lime quarries and lead mines at Dimminsdale on the estate of Lord Ferrers. The painting came into the hands of Sotheby's in 1990 and was purchased for the collection because of its local interest. This graphically illustrates the extraction of limestone by means of underground galleries, together with two steam engine houses, one located on the floor of the quarry and the other on the top rim. The style of the engine houses, together with their external haystack boilers, indicates that they are indeed of the Newcomen type, one for pumping and the other for winding.

The remains of the stone walled engine house building still exist on the top rim of the quarry, which is shown in the above photographs.

There follows an un-catalogued record held at the L&RRO of an insurance policy taken out with the “County Fire Office” by William Mathew’s on Lady Day 1853, which relates to buildings and property he was leasing at Dimminsdale. The cover was for loss or damage by fire:-

4. On a dwelling house and out offices communicating detached in tenure of Jno (Jane?) Smith.
5. On stable and calf house adjoining near the above.
6. On a Wagon Shed, Laundry and Granary over all communicating near a pipe stove in Laundry.
7. On a barn chock room, cow sheds and stables all adjoining the above.
8. On three cottages under one roof detached from the above brick and thatch near in tenure of labourers in equal proportions.
9. On two cottages under one roof, one occupied as an office in the lime yard near private……in equal proportions
10. All brick, stone and tile except otherwise incutioned and situated Staunton Harold, Leicestershire

PART 9

THE BRINGING DOWN OF THE LIMESTONE MINE ROOF BY WILLIAM MATHEWS LEADING TO THE CANCELLATION OF HIS LEASE

In Mathew's aforementioned lease 25D60/108 at the L&RRO it explicitly stated that **no** limestone was to be got by……"*the open worked method" and stipulates that the pillar and stall method should be use and the limestone should only be excavated up to the four foot stone* (shown in the earlier Woodcote & Jeffcock drawings). Various other safe guarding clauses are detailed on how the mine should be worked.

Dr. Robert King tells us in his paper entitled "Lead Mining in Leicestershire"……*Lord Ferrers was not always fortunate in his choice of lessees. The twenty one year lease with William Mathews proved to be a disaster – the loss of the mine, and financial embarrassment for his Lordship. The roof of the limestone mine consisted of a competent bed of limestone, known as the "Four Foot", which secured the workings below from collapse. Unfortunately, once processed, it also made excellent lime. Mathews mined the "Four Foot" and brought the roof down. A survey conducted at that time (1853) to support his Lordship's case for the legal prosecution of Mathews, showed the collapsed area to be highly sensitive to future workings* ***and over an acre in extent****.*

When Mathew's lease expired in 1854, Earl Ferrers accused Mathews of using wasteful mining practices, which had resulted in the loss of large quantities of coal and limestone through subsidence. He claimed compensation amounting to £1,870 for the loss of 17,600 tons of limestone, and a further £1,750 for the loss of 70,000 tons of coal.

Eventually, the dispute was submitted to arbitration. J. T. Woodhouse of Overseal represented Ferrers and T. D. Jeffcock, a mineral agent from Sheffield represented Mathews. In 1855, following thorough inspection of the works, they ruled that Ferrers was entitled to all fixtures and materials in the lime works and to all colliery buildings, but that Mathews' executors were entitled to the engines, machinery and railway at the colliery. Furthermore, Ferrers was to pay them £150, while the cost of the case was to be shared.

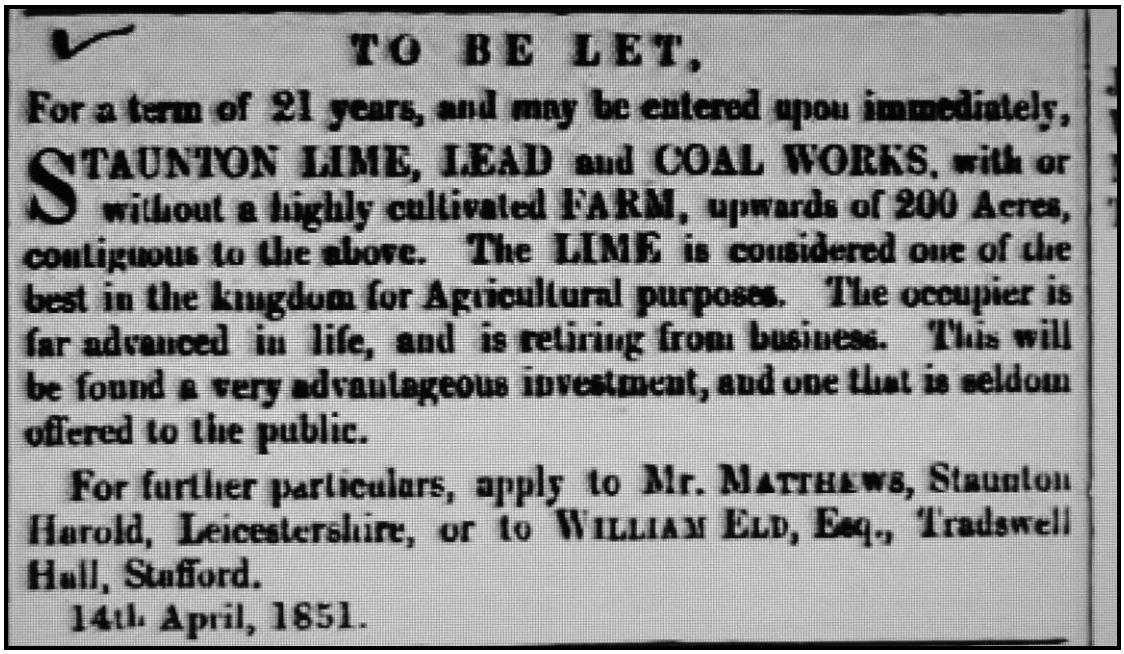
******

We cannot be sure that William Mathew's was still working the Heath End colliery when his lease expired. According to Dr. Robert King, *he subsequently appeared in mid Wales in the lead-mining field near Llanwrtyd Wells in Powys, where he was summoned to appear before the Queen's Bench in Brecon for "winning" ore from an adjacent property. A clerk's note on the bottom of the document reads:-* "*Did not appear, believed to have left the country*".

Having studied William Mathews will with various codicils and attachments, we now know that he made his will in 1851 and died on the 17th of March 1855. Probate was made to Sarah (his daughter and sole executor) who lived at Ashby, on 4th of April 1856. However, the will is shown as not being proven till 22nd of August 1860. Sarah had sworn that his estate value did not amount to £600 and there is some mention of the Inland Revenue, so they probably contested this, causing the delay in proving the will.

The following advertisement which appeared in the Leicester Journal on Friday April 18th 1851 (the same year he made his will), is interesting in that William Mathews, whose 21 year lease didn't expire till 1854, is clearly trying to appoint a sub-lessee. Whether he was successful we cannot be sure.

SEE PART 14 FOR FURTHER INFORMATION ON WILLIAM MATHEWS



TO BE LET,

For a term of 21 years, and may be entered upon immediately, STAUNTON LIME, LEAD and COAL WORKS, with or without a highly cultivated FARM, upwards of 200 Acres, contiguous to the above. The LIME is considered one of the best in the kingdom for Agricultural purposes. The occupier is far advanced in life, and is retiring from business. This will be found a very advantageous investment, and one that is seldom offered to the public.

For further particulars, apply to Mr. MATTHEWS, Staunton Harold, Leicestershire, or to WILLIAM ELD, Esq., Tradswell Hall, Stafford.

14th April, 1851.

The following advertisement appeared in the press in 1854, putting the Lime Works and Coal Mines up for sale:-

Leicester Journal – July 14th 1854

TO COAL AND LIME MASTERS

TO BE LET
THE VALUABLE LIME WORKS AND COLLIERIES AT STAUNTON HAROLD (HEATH END) NEAR ASHBY DE LA ZOUCH, IN THIS COUNTY

A most favourable opportunity presents itself, in consequence of the determination of a present lease, at Michaelmas next, of a safe and productive investment of capital in this improving district.

The Lime Works are open and in full operation, and a winning at a very small cost will open out a very valuable seam of coal.

The works are connected with the Midland Railway at Ashby de la Zouch, by a tram road, and thence to the Ashby canal.

A farm of upwards of 150 acres of valuable land, may be attached to the works. Possession of the whole may be at Michaelmas next.

To view the works and farm application may be made to John Harris, at Staunton Harold; and for particulars relating thereto, or to treat for the same, to Mr. John Thomas Woodhouse, Overseal, near Ashby de la Zouch; or to Mr. Ralston, Chartley, Nr. Stafford.

Dated 7th July 1854.

The engines at the limeworks had obviously been regarded as detrimental to the parkland setting at Staunton Harold, since, when a new lease was being negotiated by the estate in 1864, the use of steam engines at the limeworks was specifically excluded.

PART 10

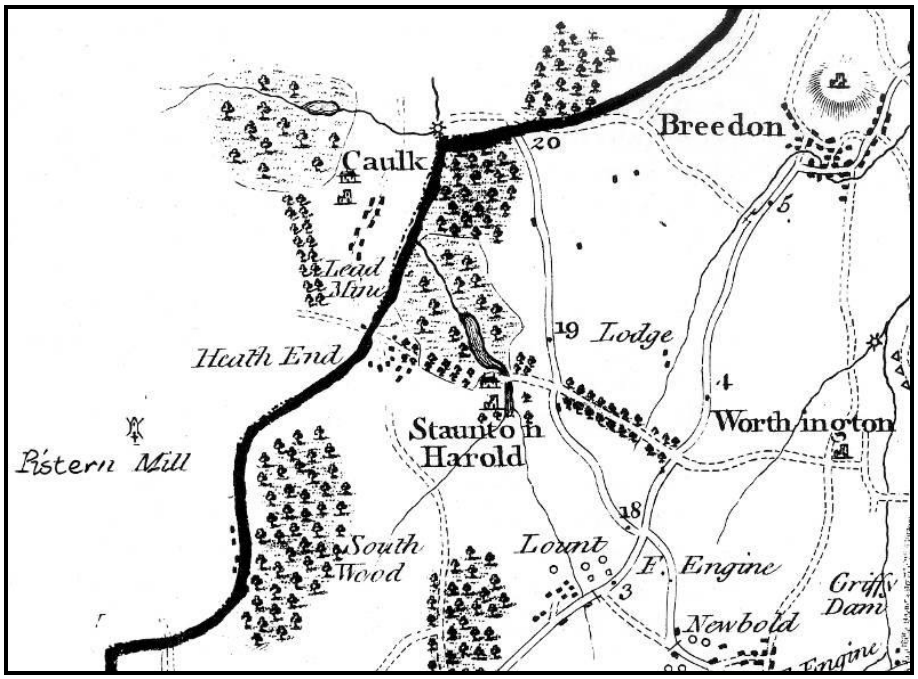
LEAD MINING IN DIMMINSDALE

Please note that the maps on pages 42 to 45 are applicable to this section also.

There is ample evidence that lead mining in Britain was carried out by the Romans. For example, James Pilkington tells us in his book entitled 'A View of the Present State of Derbyshire with an Account of its Most Remarkable Antiquities', Vol 1, July 1789, that in 1777 a pig of lead with the following inscription upon it was found on Cromford Moor, Derbys – 'IMP.CAES.HADRIANI.AUG.MEI.LVI'. It was interpreted by the Rev. Mr. Pegge as 'The sixth legion inscribes this in memory of the Emeror Hadrian'. He supposed the pig to have been cast about the year of our Lord 130. Two further Roman inscribed pigs were found in Matlock Bath in 1783, one weighing 84lbs. and the other 12 stone and 5 pounds. The Saxons and Danes, who immediately succeeded the Romans in the conquest and dominion of Britain appear not to have been ignorant either of the value of this metal.

The 1761 map of the Lordship of Calke, does not indicate any Lime and lead working in this area at that time, and we believe, as qualified earlier, that the quarrying of limestone on an industrial level started c.1775. In an article by Dr. Robert J. King – "Lead Mining in Leicestershire", he tells us that production was apparently at low levels, with only 8 tons of ore being produced in the six months from October 1778 to April 1779, although the supporting evidence for this is not given, or whether it was on the Calke or Staunton sides.

Prior's map drawn in 1777 denotes a lead mine on the north side of Red brook on the Calke Estate, but shows nothing on the Staunton side. Prior's map can be mis-leading sometimes as is the case here, as we know from the following that Earl Ferrers was mining lead bearing ore in 1777



Prior's 1777 map of Leicsestershire which depicts a lead mine

REPEATED FROM PART 7

"A HISTORY STUDY ON THE OPRIGINS AND ESTABLISHMENT OF THE STAUNTON HAROLD ESTATE" by Samuel T Stewart is also available on the website and this features an article entitled…….. **"*An Interesting Debt Accrued By Washington Shirley, 5th Earl Ferrers & Subsequently Inherited by the 6th and 7th Earls*". In this there is confirmation of when the lime and lead works were started on the south side of Red Brook by the 5th Earl Ferrers. Evidence is contained in a letter from 1777 regarding the loan of £6,000 from Chevaliere d'Eon / Madamoiselle D Beaumont (originally a French spy) of which the Earl Ferrers had apparently illegally spent £3,000 on the works stating that…….*I have drawn a great quantity of lead ore from it; but having no furnace built, I cannot yet make money of it.***

MADAMOISELLE De BEAUMONT OR CHEVALIER d' EON

In James Pilkington book described above which was published in 1789, he tells us that:- ……."*lead ore was being mined at Calke* ……

Evidence of lead being used on the Staunton estate as key plates in what was left of a sluice gate stone block construction in connection with the smelting of Iron Ore being mined on the Staunton estate was found during a field walking investigation, and is shown in the photograph below. Included in the Shirley papers at the L&RRO is a lease for an iron ore mine and furnace dated 1624 by Sir Henry Shirley, 2nd Baronet to John Wenham, the elder of Battle, Sussex dated August 7th 1624. This included pool, dams, water courses, streams and flood gates.

In an itinerary dated 1684 for Ley farm, Heath End, three pigs of lead are recorded which was presumably being used in connection with the lead glazing of pottery being manufactured there at the time.

If the lead ore was being mined and smelted at Dimminsdale, and that is only conjecture of course, then this pre-dates limestone and lead ore mining at Dimminsdale to a considerably early period than that which we have reasonably reliable evidence for.

Lead key plates referred to above.

From 1750 to 1850, lead mining became big business and Great Britain developed as the world's leading supplier, however, lead production at Dimminsdale, compared with some of the larger mines in Derbyshire, was always at a fairly low level. Production probably tailed off in the late 1830's and would have virtually ended by the 1850's.

Lead ore would have been discovered during the mining of the higher reaches of the limestone, generally known as the "Lead Measures" (see page 45) Mineral specimens from the Earls Ferrers' lead mine at Staunton Harold, are to be found in many important collections. The exquisitely crystallized examples of calcite, galena, chalcopyrite and sphalerite were clearly prized by the gentlemen collectors in the early 1800's. Fine examples are preserved in the collection of the Royal Cornwall Museum, Truro (Rashleigh collection), Sheffield City Museum and the Natural History Museum in London amongst others. Below is a photograph of a specimen from the Dimminsdale lead mine held in a private collection. The outer white crystals are calcite and the black areas are Galena (Lead sulfide)

A considerable display of crystals, similar to the above photograph of a Dimminsdale example is exhibited in glass fronted show cases in Calke Abbey. However, no descriptive material is available unfortunately.

A preceding plan held at the L&RRO with the 1833 William Mathews 21 year lease, appears to detail the lead veins already being worked on the Staunton Harold estate side of the brook at Dimminsdale. The plan was probably drawn by Mathews, who was an Ashby based architect. Mathews saw an opportunity to monopolise the production of lead, lime and coal in the area but things didn't work out totally to plan.

At first, lead was obtained from passages driven into the hill side at various levels. Often these passages coincided with a natural cavern, so there was no problem with ventilation or flooding. Sometimes an outcrop of a vein was followed along the surface opencast, which was most likely how the intial lead ore was obtained from this site. The difficulty of doing this was that no great depth of the vein could be exploited. Often shallow shafts were sunk and short tunnels driven out along the vein. Bad air was a problem in the smaller mines like Dimminsdale, so once the air became too stale to work in, air shafts were sunk from the surface enabling the working of the vein to be extended. There are maps recording air shafts at Dimminsdale.

Prior to c.1775, when gunpowder was introduced, picks and shovels were the only basic tools available to sink shafts and advance the mine levels, but prior to gunpowder, it was found that by using processes known as 'Lime Blasting' and 'Fire Setting', the work could be made easier. 'Lime Blasting' was apparently an old trick, whereby a hole was drilled into the limestone which was filled with quick lime and a bung then driven in. Through a small hole in the bung, water was added, causing a violent chemical reaction which split the rock. 'Fire Setting' was a process whereby a fire was made against the heading so as to get it very hot. The rock was then doused with water, which caused it to crack and break up into small lumps.

On sinking a shaft down to the ore-holding limestone, passages were driven out, often in the shape of a coffin, i.e. narrow at floor level, widening out at the shoulders, and then tapering inwards again towards the roof. These passages tended to be 4-5 feet high. Once the vein was located, they were then enlarged to suit the type of vein.

The way the lead seam lies in the stata depended on the amount of lava surrounding it, and how quickly the different lava types cooled. Various names were given to the lead veins such as 'Rake', 'Scrin', 'Flats' and 'Pipes'.

For much of the history of lead mining, the miner would have worked by the light thrown out by a candle attached to the brim of his hat. Much like coal mining, the lead and lime working miners would have been a close knit community and the manager would have worked with the men on a personal basis. Many of them would also have been farmers, and when the miner was working in the mine, it would have been the responsibility of the family members to look after the farm. In the larger mines, the miner would have been a share holder and worked about an eight hour shift, but less in wet conditions. To protect them from the wet they wore leather clothes and hats, but in the 1800's this changed to canvas material.

In the 17th century, an average daily wage in Derbyshire was 5d. Women tended to be responsible for washing the lead ore and were paid a daily average of 3d. As in the coal mines, the lead and lime workers would have smoked heavily from clay pipes and consumed ale with their food whilst in the mine. The ale was often supplied by the owners as part of their wages, similary again to the practice in coal mines.

DESCRIPTION OF THE LEAD SMELTING PROCESS

Originally, lead ore was smelted by means of simple wood fires, but this unreliable method was superseded by what became known as the 'Hearth Furnace', which was of a rather crude and simple construction. It basically consisted of large rough stones placed in such a manner on the ground to form an oblong cavity about two feet wide, fourteen feet long, and two feet deep into which fuel (wood and coal) and ore are placed in alternate layers. The heat required was produced by a pair of large bellows worked by a water wheel, and applied about five or six inches from the bottom of the cavity. The fuel consisted of a combination of wood and coal, and when the heat became strong enough to smelt the ore, the lead trickled down to an opening at the front of the furnace and ran through a small channel made for the purpose. It then fell into a trough placed in front of the hearth, from where it was ladelled into moulds, and cast into blocks called ' pigs'. The lead procured by this method was said to be very soft, pure and ductile, but a considerable quantity was always found to remain in the hearth, in the form of slag etc which had to be put through another furnace called a 'slag furnace'. This produced an inferior product to the first process.

Further developments resulted in the introduction of what became known as the 'Lead Cupola Furnace' which was introduced into Derbyshire c.1750. The basic design and construction methods for these lead cupola furnaces are said to have been introduced from Wales, by a company of Quakers, about the year 1747, although James Pilkington records that they were said to have been invented by a physician named Wright. More advanced designs were developed which incorporated long condensing flues to condense the lead vapours and dust before the waste gases were dispersed through the chimney and into the countryside. Considerably amounts of toxic fumes from a Cupola Furnace would have been exhausted onto the surrounding countryside, and for that reason the Lords of the manor who owned the quarries, chose locations that was as far away from their residence as practical. This was certainly the case on the Harpur Crewe's and Earls Ferrers estates.

Although some of the initial experiments with the Cupola Furnace are recorded by Farey as possibly being carried out in Derbyshire probably near Staunton Harold, because of the ready availability of coal, it was slow at first to be adapted, and took half a century for the process to be generally adopted. By then it survived as the major process for another century.

The writer recommends that the reader wishing to know more about the lead mining and smelting industry in the early days, should consult the following publications:-

1. Derbyshire Lead Smelting in the 18th and 19th Centuries by Lynn Willies – A bulletin of the Peak District Mines Historical Society Vol ll No.1. Summer 1990.
2. A View of the Present State of Derbyshire with an Account of its Most Remarkable Antiquities, Vol 1, published by James Pilkington in July 1789.

Before the lead ore was ready to be put into the furnace it was crushed into small pieces, washed and sifted. This was generally carried out by women, who would have been hired by the miners as sub-contractors and earned in the order of six-pence per day. Once the ore was cleaned and dressed, it was transported to the furnace for smelting. The lessees of the mine such as Boultbee, Orme and Mathews on the Staunton Harold side would have paid the Earls Ferrers a percentage of the profits of course, and tithes would have been due to the Rector etc.

In order to provide the reader with further knowledge of what was involved in the cupola lead smelting process, it was felt that the following account written by John Farey in 1811, gives a good factual description of these furnaces. A schematic drawing has been included at the end of the article in order to better understand John Farey's following description

The following is a description by John Farey, of the construction and management of cupolas which were in use in Ashdown by Sykes, Milnes, and Co (called Stanage). It is taken from "A Treatise on the Progressive Improvement & Present State of the Manufactures in Metal" Vol 3 1834 & 1838 by the Rev. Dionysius Lardner:-

The cupola furnace would have been made of gritstone and limestone lined with firebrick, and then sealed with fireclay. It is almost certain that metal supports for the roof would have been incorporated.

Each cupola here consists of a reverbatory furnace about ten feet long, and six feet wide in the middle, inside, and two feet high in the centre; the flame being supplied from a fire place at one end, over a wall of bricks, called the fire bridge, one foot high, and reaching within eighteen inches of the roof, which descends gradually to the end opposite the fire place; where it is only six inches high, and where are two openings, separated by a triangular block of firestone, which meet in the passage or flue, eighteen inches wide. This flue curves upwards through a length of ten feet or more, and is covered by flat stones, closely joined in fire clay, that can be removed when the flue gas, or vitreous scoria, requires cleansing; these flues join by an easy curve into a tall chimney, whose top is fifty-five feet above the ground. One side of the furnace or cupola, is called the labourer's side; hence the door is situate for supplying calls to the fire, and also three small openings, about six inches square, into the furnace, stopped by iron plates, that can be removed when a free current of air is required, or the furnace needs stirring. On the other side, called the working side, are three similar openings, stopped in like manner, by moveable iron plates, and two others below them for tapping the slag and the lead; the ash-hole also opens on this side, and has conveniences for raking and opening the grate bars from below, in case of their slagging up, so as to impede the draft to the fire.

The floor of the furnace which is composed of old slag, roughly rounded, and brought to the proper form by hoes, is made up nearly to the level of the small doors on the labourer's side, but declines so as to be eighteen inches below the middle door on the opposite of the working side; and here the tap hole is situate, for letting out the lead into a large cast iron pan, placed under it in a niche in the lower part of the furnace. From the lead tap-hole, the bottom rises all ways, forming thereby a receptacle of the proper size for the lead contained in a charge of ore; level with the usual surface of which, another tap-hole is made under the door which is furthest from the fire place; this is for tapping or letting off of the slag. In the centre of the top of the furnace there is a small opening, called the crown hole, covered by a thick iron plate when the furnace is at work; above this crown hole is a large hopper made of wood, with an iron tube below it, reaching down almost to the plate which covers the crown hole; above the iron tube the hopper is furnished with a shuttle, or sliding valve, and the whole is suspended by framing from the roof of the large building, like an immense barn, in which four of the cupolas thus described are maintained. Into the aforesaid hopper a charge of ore is put, at leisure times during the working of the furnace, ready to be instantly discharged into it, by removing the crown-plate and drawing the hopper shuttle, as soon as all the lead of the previous charge has been drawn off, and the tapping holes are stopped up by quick lime, tempered as mortar; so that nether time nor heat are lost between charges.

In the cupola or furnace thus constructed, the process of roasting the ore at a moderate heat, to expel or sublime the sulphur, arsenic, &c., can be performed, and afterwards an intense heat can be applied for expelling the oxygen or reducing the metal. The ore, which is here shot down into the furnace at once, usually consists of five or six, or even seven or eight sorts, from different mines, or dressed in a different manner; on which mixtures, in due proportion determined by experiment, the perfection of the process much depends. Sixteen hundred weight (of 120lbs. each) is the usual charge, is first raked and spread over the floor of the furnace, and then the doors of the furnace are then closed to bring it to a red heat; when the doors are again opened, and the ore is stirred and raked about, first from one side of the furnace, and then from the other, so as to expose repeatedly every part of the ore to the action of the heat and the air, during several hours; at the end of which time the doors are closed, and the fire increased to an intense

degree, by which the reduction of the metal is effected, collecting in the bottom of the furnace, while the slag swims on the top of it, to the depth of two or three inches. The tapping of the slag is then performed, by poking out the stopping of lime, when the slag flows out like melted glass in appearance, and soon cools on the floor of the building; in which state it is opaque, of a whitish-grey colour, and moderately heavy. This macaroni slag, as it is called, being drawn off, the smelter immediately scatters in upon the melted lead two or three shovels-full of quick-lime, in powder; which has the effect of stiffening the remaining slag, which floats on the metal, and which is carefully raked off in a semi-fluid state; this called drawn slag, and is when cold, of a very dark or black colour, and very heavy.

The lead-pan being cleared out, and the stopping of lime removed, the metal is suffered to run clean out of the furnace into the pan, which is then skimmed, and the dross is then thrown back into the furnace, where it exhibits the most vivid and beautiful changes of colour imaginable; the lead is then taken out by ladles, and poured into seven or more cast-iron moulds with round ends, of the proper size for pieces of lead, which are placed in a row, and are there left to cool. A new charge of ore is now let down into the furnace, through the crown-hole, and the operations repeated, by means of two sets of workmen, during every seven or eight hours, for the whole week.

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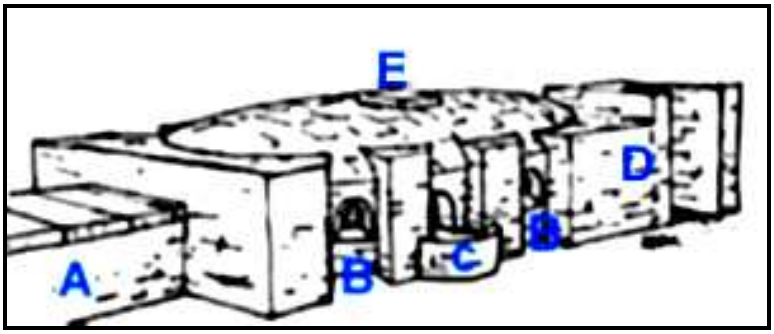
The basic schematic drawing below, is taken from the paper by C. J. Williams and L. Willies, relates to the text by John Farey and an 1807 plan. Letters have been added to designate the various parts of the low arched cupola furnace. A structure would have been created above the furnace with a hopper arrangement to load the furnace with the ore in the centre at **E.**



A = Flues going to separate tall chimney, **B** = Arched tap holes for molten lead, **C** = Lead pan in place to receive molten lead, **D** = coal fireplace and furnace, **E** = Crown hole in top of low arched cupola furnace where the ore is loaded to charge the furnace.

****

In 1806 the price of lead was £35. 12s. 6d. per ton, but in ten years time had dropped to £16. 5s. and by 1829 it was recorded at £14. 5s. In that and the following years, the poor lead miners suffered great distress in every part of the Kingdom. In 1821 we were exporting 19,772 tons of lead, but by 1831 this had dropped to 9,309 tons. However, there is evidence in a paper by C.J. Williams and L.Willies in 1968 that money was still being invested in building these furnaces in Derbyshire in 1833, and evidence of this can be seen at Dimminsdale.

Dr. Robert J. King mentions in his report on Lead mining in Leicestershire, that the lead ore found at Staunton Harold, was almost self-fluxing, being rich in asphaltic compounds.

Due to the limited amount of lead ore being mined at Dimminsdale, the cupola furnace would have not been in continual use, and would only have been fired up once an appropriate amount of ore was available for smelting.

PART 11

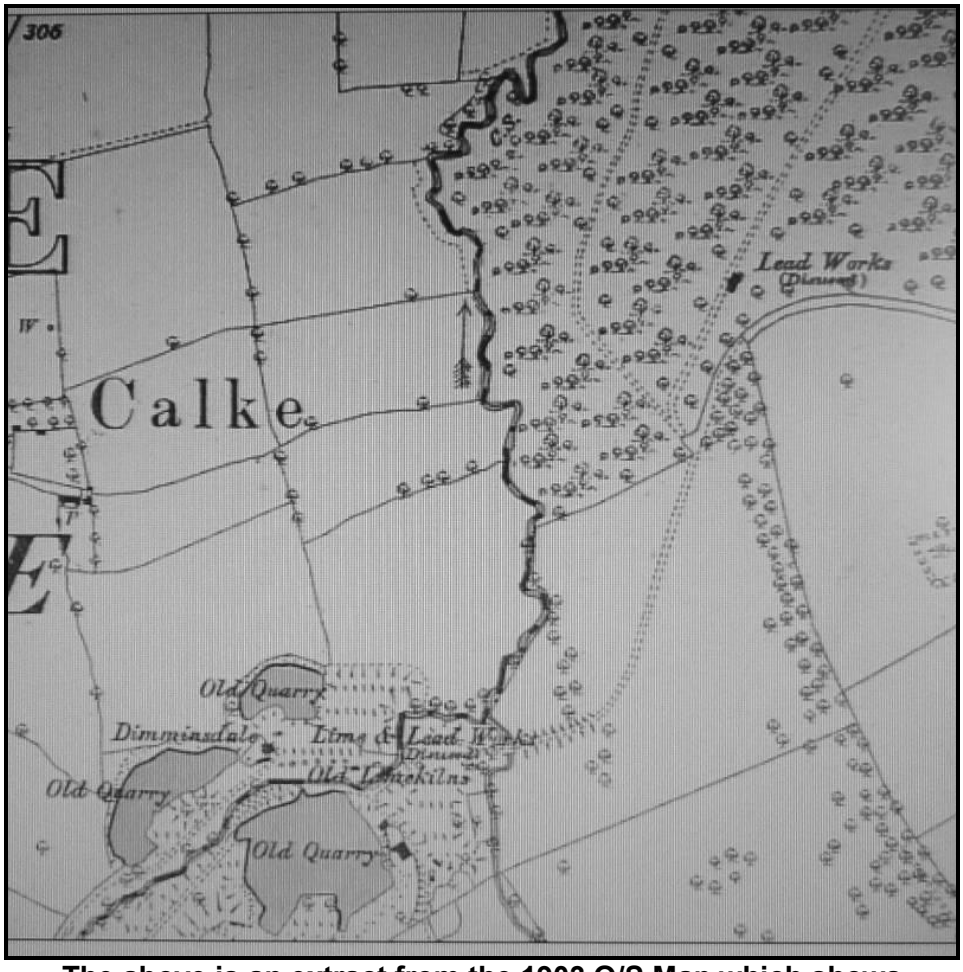
THE EARL FERRERS' LEAD CUPOLA FURNACE

In the book written by John Farey for the Great Britain Board of Agricultue in 1811, and entitled "Agricultural Surveys: Pts 1&2 Derbyshire (1811-17), he includes the following under a list of cupola furnaces in and near Derbyshire:-

"Coppy-Nook in Staunton Harold – Earl Ferrers"

This information and the following map which records the location of the cupola furnace site, plus the remains of former buildings and information recorded in various leases has enabled us to put together our interpretation of this small industrial area for the smelting of lead from Earls Ferrer's mines. We have spent some time debating the meaning of Coppy-Nook but have come to the conclusion that it simply meant, in the corner of a coppice or wood which accurately describes where this furnace was at one time situated on the edge of Spring Wood.

We know a lead smelting furnace was in operation when Joseph Boultbee took out his 21 year lease with Earl Ferrers in 1788 described as a building on Staunton Park.



The above is an extract from the 1903 O/S Map which shows the Lead Works (disused) in the top RH corner

We were kindly given permission by “Derbyshire Wildlife Trust” to enter the site to try and establish some physical records of any buildings which may still exist in there, on the proviso we did not cause any damage. Our investigation was carried out on a sunny day when the blue bells were in full bloom, and what a magnificent sight it was to.

These lead cupola sites usually incorporated auxiliary buildings such as an orehouse, fuel store, weigh house and counting or reckoning house. Unless there was a nearby blacksmith, a smithy would be essential, as tools required daily repair.

Below are photographs of the only building which still exist relating to what we believe to be the lead ore processing site. All that is left standing is what appears to be a brick built lean-to office which was formally attached to a larger brick building of which only the foundations remain. It is difficult to imagine that an office would have been attached to the furnace, so this had to have been sited elsewhere. The fireplace or chimney in the office part shows no sign of use. It is not unreasonable to assume that this was a Reckoning or Counting House which is mentioned in a lease as existing somewhere, however that is only conjecture.

We investigated the embankment between this building and the site boundary fence (see following photograph), and were fortunate in being able to locate a collapsed circular brick flew of some 18 inches diameter with various supporting ironwork parts which suggested this allowed access to the flew. This was at a point under the wildlife trusts boundary fence (see following photograph). We were able to trace further evidence of this flue on the adjacent parcel of land to the Wildlife Trust site for a distance of approximately 30 yards. It is almost certain that the flue exited the cupola furnace around this point. It is interesting to note that nothing is actually growing on this patch of land of approx 25 sq yards, yet bluebells and ferns surround it. We found no evidence of the cupola furnace in this area, which is not surprising really. We must remember that in those times, when buildings fell out of use the bricks and other usable materials were often robbed for use elsewhere. The purpose of the flue is explained in the preceding article but it was basically used for trapping the lead particles before the exhaust gasses were passed to a tall chimney and out into the countryside. The flue was straight over its length and the projected line of it would have finished in the extension to the office building, and it is therefore not unreasonable to assume that this is where the chimney was located.

We are confident that this area was the original site of Earl Ferrer’s lead smelting furnace built 1777/8 and there are no records or evidence to suggest a location elsewhere. The site would have been developed over the next 65 years or so, but would eventually have fallen out of use whilst William Mathews held the lease (1833/54), and lead ore production virtually finished. This furnace would undoubtedly have been utilized to smelt the lead ore from both the Dimminsdale and Heath End sites.

This photograph shows the boundary fence behind the office where the flue ran underneath from the cupola furnace

Photographs of what remains of the office. This was clearly part of a larger building and foundations confirm this. It is almost certain that this incorporated the chimney to which the flue came form the cupola furnace as described above.

The following photographs are a selection of the collapsed circular flue which ran from the Lead Cupola Furnace down to a chimney which would have most likely have been on the end of the above building, evidence of which has now long gone.

End of circular flue

PART 12

THE RE-OPENING OF A LEAD MINE IN STAUNTON PARK??

At the L&RRO there is a deposit of a draft lease dated July 25th 1864 relating to the mining of veins of lead in Staunton Park, Staunton Harold except on the site of the mansion house and outbuildings. Rent £100 for first year, and a royalty of a twelfth of the value of the yield; £200 subsequently, and a royalty of a ninth of the value of the weight of the yield. The lease to run until 1867 and to be renewed annually on the 25th December. The two gentlemen named in the lease are William Heawood Sperry of Derby, miner and James Eastwood of Derby, Iron Stone Manufacturer. At the time, the draft lease was issued, the Right Honourable Sewallis Edward Shirley, 10th Earl Ferrers was only aged seventeen, and a court case took place in Chancery before the Master of the Rolls in Chambers on Tuesday the 9th day of August regarding the approval of the leasing of the lead mine to Sperry and Eastwood. A full transcription of the rather complex proceedings follows and this appears to conclude that the lease was approved.

TRANSCRIPTION OF CASE HELD IN CHANCERY BEFORE THE MASTER OF THE ROLLS IN CHAMBERS ON AUGUST 9TH 1864 (ORIGINAL HELD AT THE LRO)

Between the Right Honourable Sewallis Edward Shirley, Earl Ferrers and Viscount Tamworth an infant by Adolphus John Spencer Churchill, Chichester, his uncle and next friend – Plaintiff Evelyn Philip Shirley (since dismissed) and others – Defendants upon the application of the infant plaintiff Earl Ferrers by Adolphus Spencer Churchill, Chichester his next friend and upon hearing an affidavit of Niven Ralston filed the 20th day of December 1863, an affidavit of Henry Goodwin filed the 9th day of August 1864, and the exhibits therein referred to and his honour approving of the draft of a certain agreement to be made and entered into by Niven Ralston of Park Hill House in the County of Stafford, the receiver of the rents and profits of the infant plaintiff's real eastate of the first part, and William Heawood Sperry of Derby, miner and James Eastwood, Iron Stone Manufacturer, of the second part being our agreement to let certain lead mines under the lands, grounds, hereditaments and premises called Staunton Park estate and being within the liberty of Staunton Harold in the County of Leicester from year to year at a minimum rent of one hundred pounds for the first year and a royalty of one twelfth of the same period and a minimum rent of two hundred pounds for the second or and subsequent years of such letting and a royalty of one ninth for the last mentioned term. It is ordered that upon the said William Heywood Sperry and James Eastwood – delivering for the receiver a counterpart of the said agreement approved by the judge and identified by the signature of the chief clerk in the margin thereof duly executed, the receiver be at liberty to deliver to the said William Heawood Sperry and James Eastwood the original of such agreement duly expected.

Whether the agreement was finalized or lead was ever mined at Dimminsdale again is not known.

PART 13

THE DEVELOPMENT OF A SYSTEM OF HORSE DRAWN TRAMWAYS AROUND DIMMINSDALE AND HEATH END WHICH CONNECTED WITH THE TICKNALL TRAMWAY AT SOUTHWOOD

A complex system of horse drawn tramways was installed around Dimminsdale which interlinked with tramways from William Mathews Heath End coal mine, across the Staunton Harold rear entrance, from where coal was shipped mainly to the lime kilns at Dimminsdale. The tramway enabled lime to be taken by horse drawn waggons out to the Ashby canal and onto the wider national canal network via the Cloud Hill and Ticknall tramway where it joined the latter at Southwood. We can only base our interpretation of the layout of these tramways around Dimminsdale and Heath End on field walking research carried out.

It is important to note that both Cloud Hill and Ticknall limestone quarries had enjoyed the benefit of shipping out their lime by horse drawn wagons to the Ashby Canal following the opening of the Cloud Hill and Ticknall tramway in 1802, although the Ashby Canal did not reach Willesley basin till 1804 where the lime was transhipped at the wharf there. Therefore, lime had to be collected from Dimminsdale in horse drawn wagons by the customer, thereby restricting the sale to a considerable degree up to 1830 just three years prior to William Mathews taking over the lease.

The following advert refers to lime being delivered by horse drawn wagons on the tramway in 1839.

Leicester Journal – May 17th 1839

STAUNTON HAROLD LIME WORKS

The public are respectfully informed, that the **Staunton Lime** is delivered along the Ashby de la Zouch line of railway and canal at the under noted prices:-

	s.	d. per ton
Ashby Wharf	10	2
Willesley	10	6
Measham	11	8
Llott	11	9
Snarestone	12	0
Shakerstone and Congerstone	12	4
Carlton	12	7
Bosworth	12	9
Shenton	13	0
Sutton and Dadlinton	13	3
Stoke	13	6
Higham and Hinkley	13	9
Plagueham Lane	14	3
Marston Junction	14	4

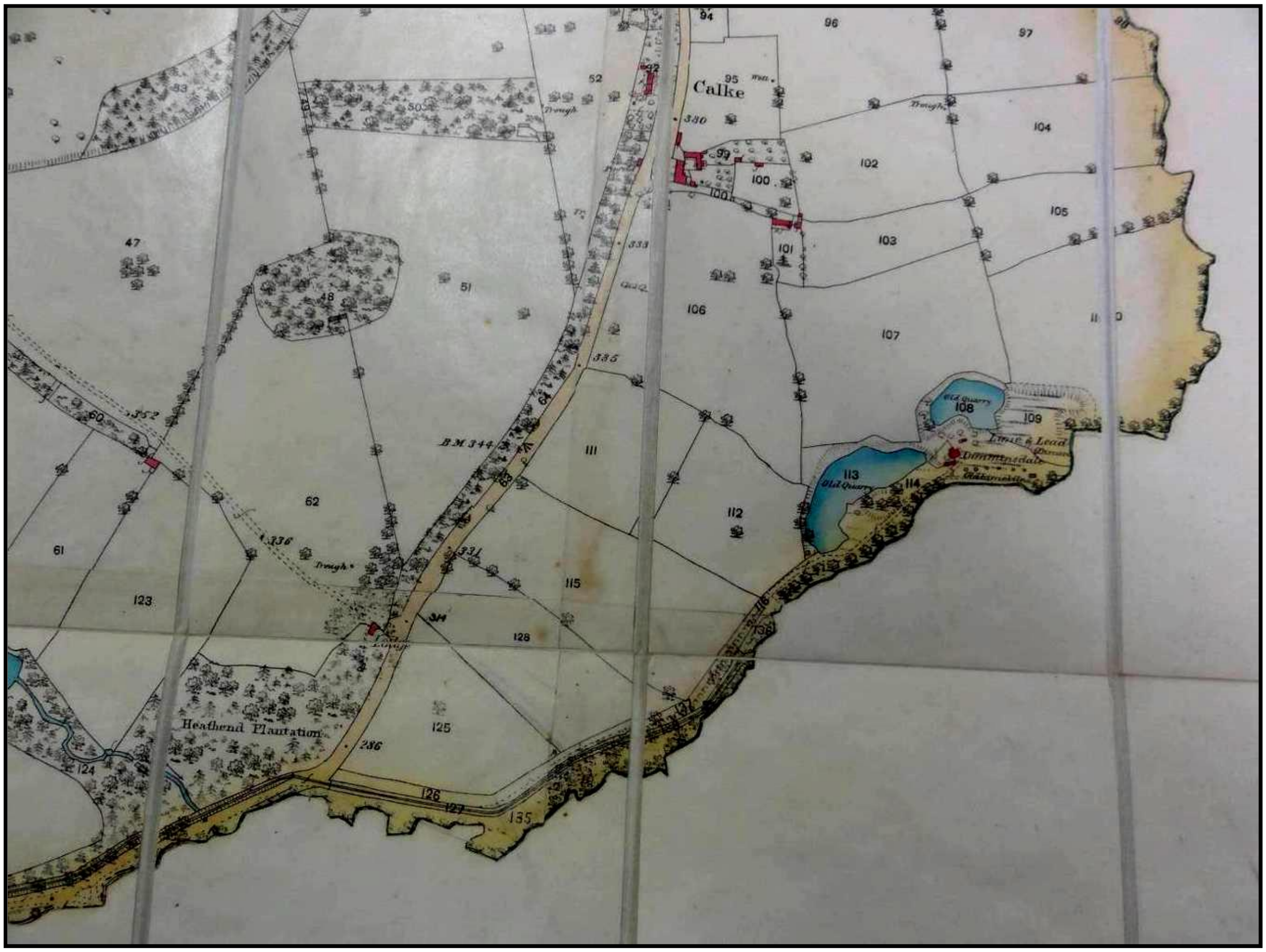
Waggons loaded at the works on equally reasonable terms

It is requested that one shilling only be given to the landman at the works for loading each wagon, and sixpence for each cart.

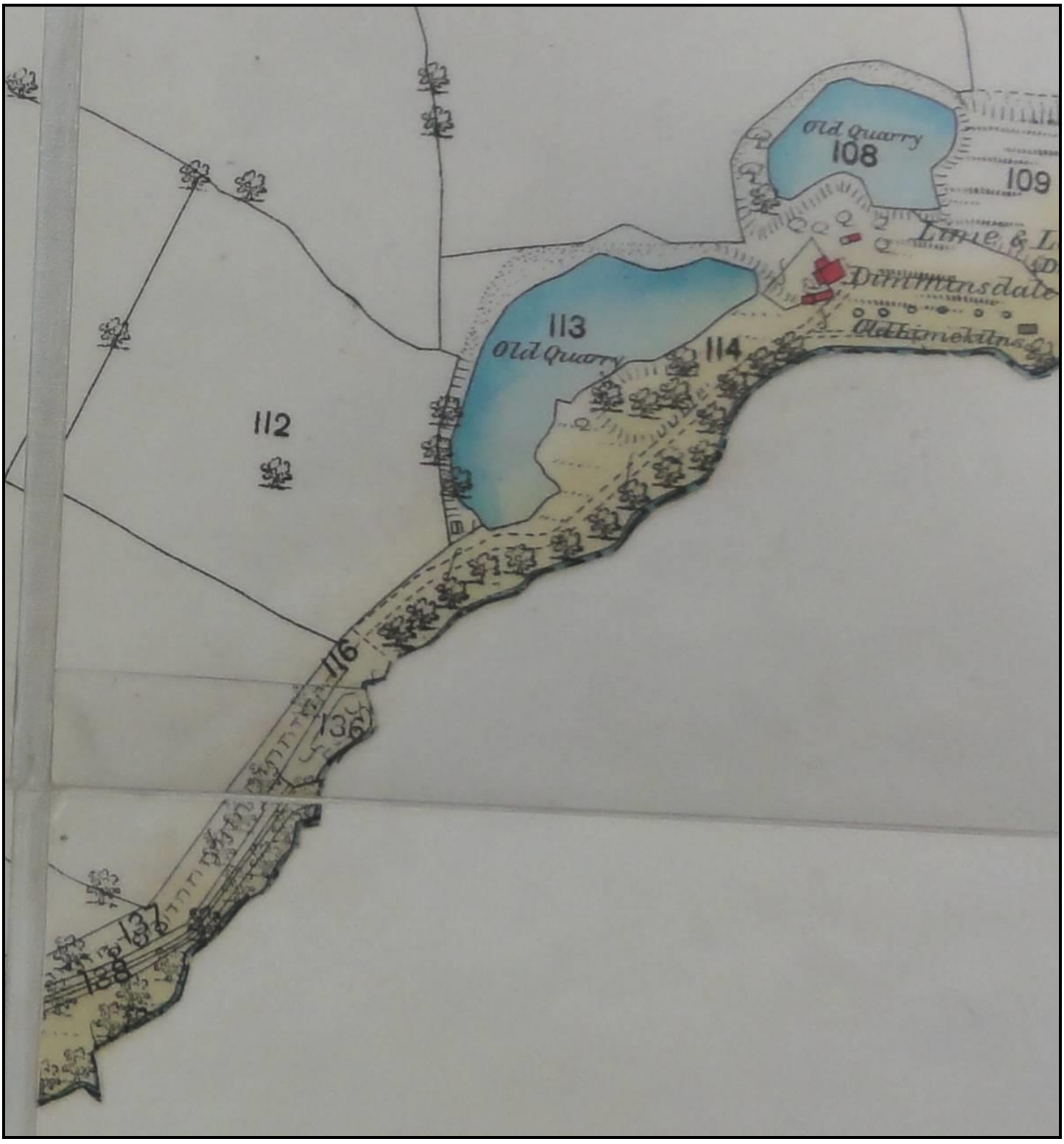
An allowance of sixpence per ton from the above prices on payments made before the 1st day of October.

Orders transmitted to William Mathews, of Ashby de la Zouch, the proprietor of the works; to J. Barber, Carlton; or to T. Tomlinson, Hinckley, will be duly attended to.

Staunton Harold, May 14th, 1839.



Section of Melbourne Parish map of 1883
Referred to later



Enlarged section of the map on the previous page
Referred to later

Due to the continued success of the lime workings at Dimminsdale and the coal mining at Heath End, an opportunity arose to obtain a larger market share for these products.

The following is partly taken from the respected publication - "The Ashby-De-La-Zouch Canal and its Railways" by C.R. Clinker and C. Hadfield":-

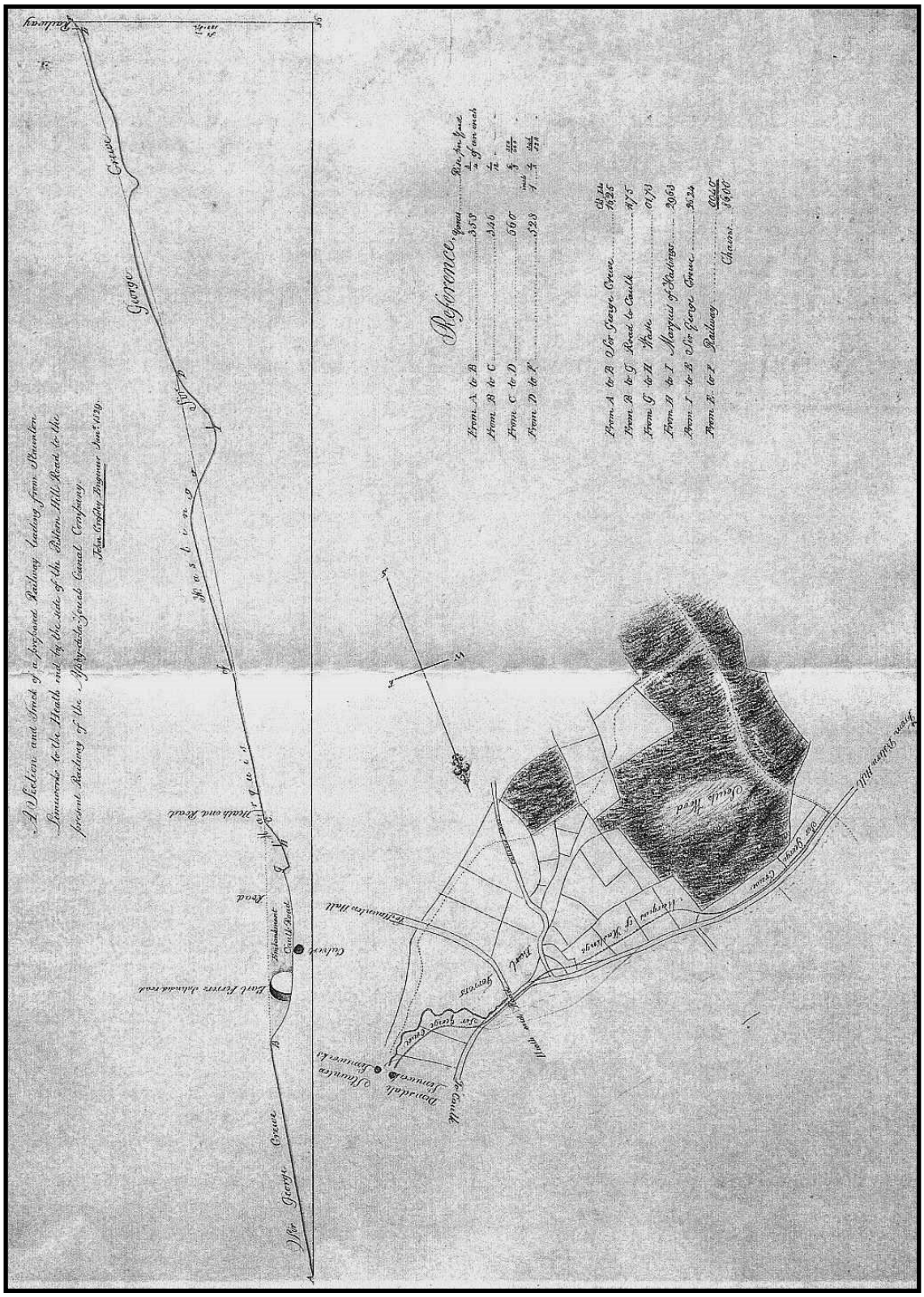
On September 2nd 1828, it was reported by Mr. John Crossley (engineer) to a committee of the Ashby Canal Company responsible for railways /tramways, that the 9th Earl Ferrers had intimated that he required the company to make a railway to the lime works at Staunton Harold in accordance with the provision in their act (1794). Crossley had already met Webb, the Earl's agent, and was now instructed to survey the plan for the line in December, after an objection by the Marques of Hastings to the route selected through his land. Crossley was told to stake out the line from Dimsdale (Dimminsdale) to a junction with the company's Ticknall branch (opened on May 1st 1802) on the west side of South Wood, allowing for a private railway from Sir George Crew's limeworks in connection with it. Although the Marques of Hastings agreed to the line as altered, it was subsequently changed to run through Sir George Crew's land on the Derbyshire side of Red Brook (see the preceding maps, and the following explanation of the route taken)

The General Assembly on April 5th 1829 approved commencement of the construction of the railway, which was in fact constructed as a horse drawn 4ft 2in plateway track, tramway.

The committee met at Heath End, Dimsdale on August 13th 1829 to inspect the works, and on September 1st it was reported that 400 yards of track were supplied by Messrs. Thornewill and Parkes of Burton on Trent at £17 17s. 6d. per ton.

Although the committee forecasted that the tramway would be ready by the end of September 1829, clearly some unrecorded delay had taken place, as on September 7th 1830, the committee resolved "that Lord Ferrers be acquainted with the completion of the Staunton Harold railway and to request his Lordship should take immediate steps to promote the trade thereon". Clearly this was inferring that now the investment in the tramway had been made, Ferrers need to ensure that it was being adequately used to transport his lime from Dimminsdale to the Ashby Canal. It seems unlikely that the line was ready, but unused, for a whole year. The link was completed at a cost of £1,518 with the rails being supplied by J. F. Thornwill and Company of Burton upon Trent.

The selected route was on Sir George Crewe's Estate on the Derbyshire side of Calke Brook (see earlier map) and it joined the Ticknall tramway where it crossed the Melbourne to Smisby Road at Southwood, after running through the south Derbyshire and north Leicestershire countryside for about 8 miles. The wagons were drawn by horses over cast iron plate rails fastened to stone blocks and it is recorded that three horses were allowed to pull two wagons (4 tons).



The original proposal drawn by the engineer John Crossley in January 1829 for the tramway to the Dimminsdale limeworks which passed through the Marques of Hastings land.

The bottom left hand corner of the first of the two preceding Melbourne Parish 1883 maps is approximately opposite to the rear entrance to Staunton Harold Hall and the garden centre. These maps clearly show the Dimminsdale part of the tramway on its way up to the six lime kilns on the Calke side of the quarry. The tramway would have branched off to the top and bottom of the kilns to facilitate the loading of coal slack and limestone into the top and then transhipping the processed quick lime from the bottom out to the Ashby canal. The coal was shipped to the kilns via an interconnecting tramway from William Mathews Heath End colliery as described below.

A section of the 1859 Staunton Harold estate map

If we now refer to the map above, the double line track which passes through field number 48 from the rear entrance to Staunton Harold Hall (60) was originally a trackway which probably left the original coal mines termed as being worked by “The Old Men”. This track originally went all the way around Dimminsdale and then headed north to form the old road. Horse drawn wagons would have used this track prior to the tramway being constructed by William Mathews from his coal mine at Heath End (Engine pit / Gin pit). An adit for the draining of water from the mines also ran through a tunnel under the rear entrance to the Hall, and evidence of this still exists.

Evidence of a section of this tramway which went over the Staunton Harold rear entrance road into Mathews mine is shown in the photographs below. After leaving the mine, the tramway ran for about 50 yards along the existing footpath used now by the public to get to the Dimminsdale Nature Reserve It then joined and roughly following the path of the old trackway, running parallel to Red Brook before entering Dimminsdale. Evidence of a further sleeper block confirmed the path taken. The following two photographs show examples of the tramway rail stone sleeper

blocks we observed, which are set at 3ft intervals and at 4ft 2in. pitch as normal, either side of the path. The tramway would have been constructed by William Mathews soon after he took out the 21 year lease in 1833

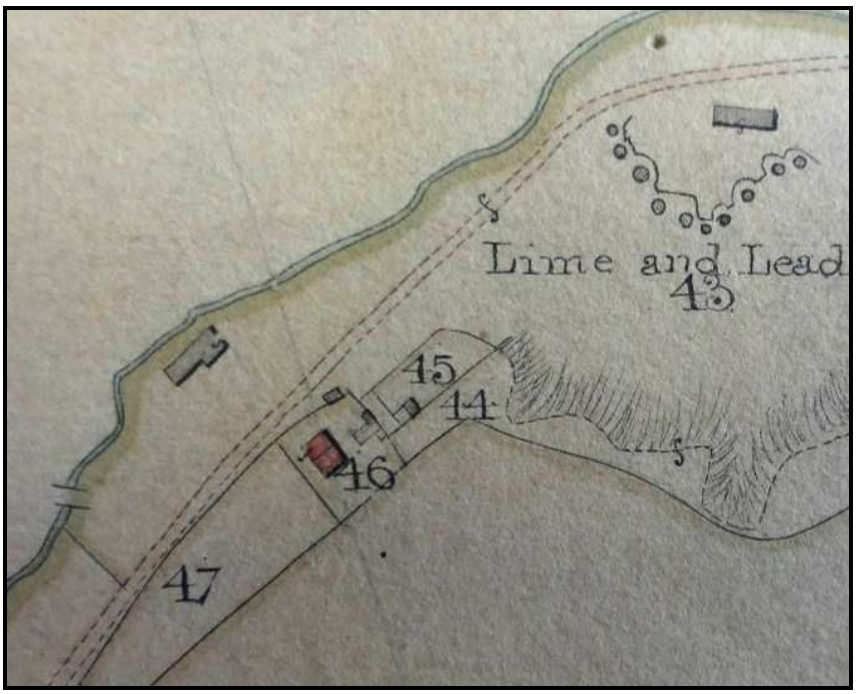
The LH photograph is looking towards the Staunton Harold entrance road and the RH towards Dimminsdale

The complexities of the tramway routes, serving both the Calke and Ferrers side of Dimminsdale, makes it very difficult to portray them with clarity without a professionally drawn map.

When the tramway described above entered Dimminsdale, it bypassed the bridge shown in the following photograph and ran alongside Red Brook until it reached the 10 lime kilns on the Ferrers side where it branched off to the top and bottom of the kilns to facilitate the loading of coal into the top of the kilns and transshiping the processed lime out from the bottom. The transshipping of this quick lime out to the Ashby Canal required a simple points system to divert the wagons over the Red Brook bridge where it joined the tramway which went on to join the Ticknall Tramway at Southwood. This part of the tramway went straight down to the lime kilns on the Calke side on land owned by the Calke Estate. Unfortunately no evidence is left (without excavation) of the sleeper stones on this section, which is now a public footpath.

The original bridge over Red Brook, which the transship tramway link crossed over – Photograph 2016

Two large irregular shaped but reasonably flat topped grit stone sleeper blocks onto which the tramway rails were originally fastened, were found on top of the bridge running over Red Brook. The bridge location is shown in the bottom LH corner of a section of the Staunton Harold 1859 estate map shown on the following page.

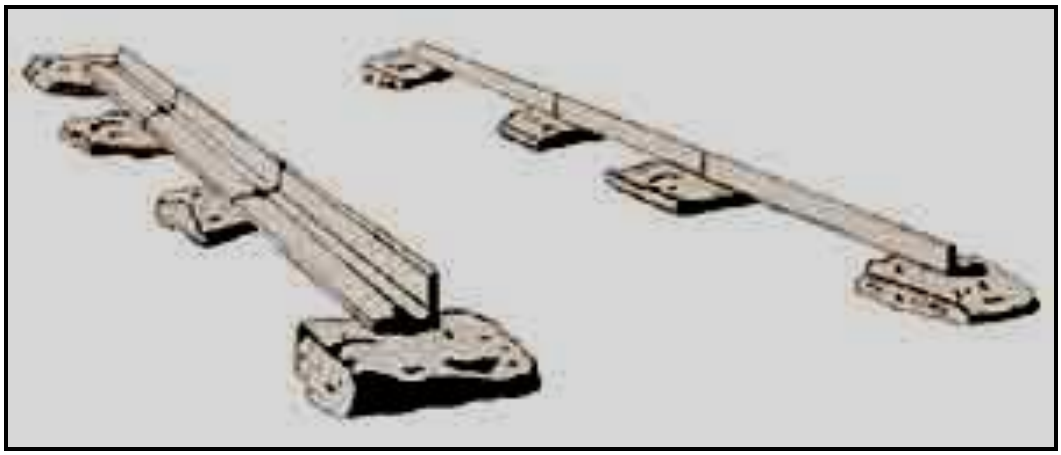


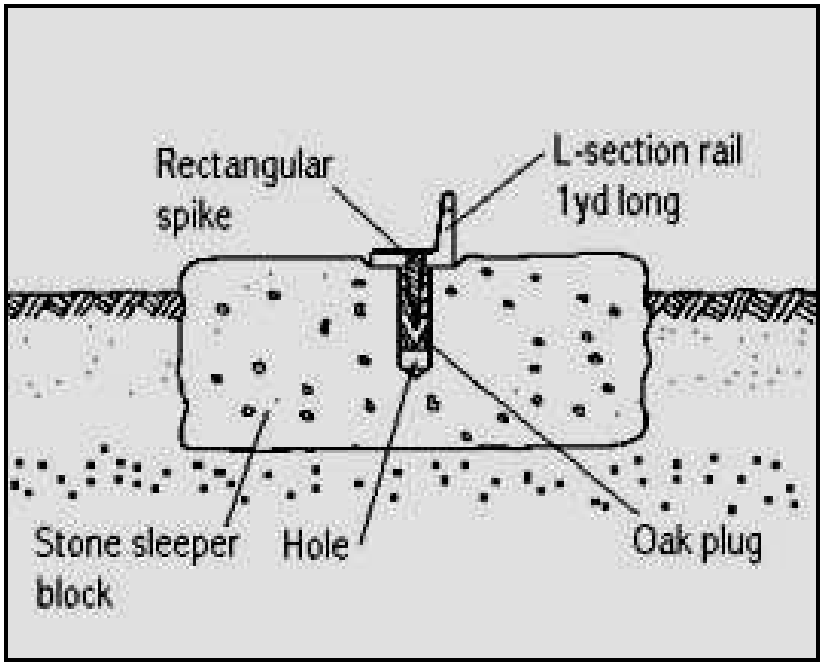
These sleeper blocks together with evidence of a further sleeper block and coupled with observations of the terrain and tree / hedge line, clearly demonstrates that this part of the tramway which interlinked with tramway going the six Calke kilns at the bridge, went to the ten lime kilns (now below the surface of Laundry Pool 43). This facilitated the taking of coal in from Mathew's pits and lime out from the kilns to the Ashby Canal.

Mathew's also built a short length of tramway which connected directly from his coal mine to the adjacent tramway which joined up with that going to join the Ticknall tramway at Southwood. This was to facilitate shipping out coal from his coal mine to the Ashby Canal. However, from evidence that we have seen, it can be assumed the majority of his coal went to fire the kilns on the Dimminsdale site.

The sleeper blocks (sometimes known as chocks) had a central hole drilled in them. Outram, who was the engineer appointed for the Ticknall and Cloud Hill tramways, laid down the specification for the hole at 1½ in. diameter x 6 inch deep. These stone blocks, to which the cast iron rails were secured, weighed upwards of ¾ cwt, and would have been set firmly on a bed of ballast, such that the holes were at 3ft centres along the lines of the rails to suit the 3ft long vertical flanged cast iron plate rails which had a notch at each end to form two halves of a hole which the spike went through. The two rows of rails and stone blocks ran parallel to each other, and were set by an iron gauge to achieve a width of 4ft 2in (distance over the vertical flanges). The width of the base flange of the rail, according to Geoffrey Holt, was 4in. wide on the Ticknall Tramway and the vertical one 2¾in. high. The rails were placed end to end with the notches centred over the hole in the blocks. Tight fitting octagonal wooden oak pegs were driven into the hole in the sleeper blocks, and hand made wrought iron spikes made to fit the countersunk notches at the end of the rails were then driven into the wooden pegs through the notched holes, to secure the rails in position. According to Outram, the wooden plug was to be octagonal and 5in. long, and the spikes were to be made to fit the rectangular countersunk notches in the end of the rails in order that they finished flush with the rails. It was intended that the narrow wagon wheels ran close to the vertical flange of the rails. In reality, the spikes would have worked loose under the continuous impact from the max 4 tons per wagon load, and no doubt the wheels would have

been bumping along over the spike heads most of the time, and they would have had to be continually maintained.






The two sleeper blocks found on top of the bridge
In some cases, it was necessary to dress the sleeper blocks to provide a flatter surface for the rails to sit on, as shown in the RH photograph.

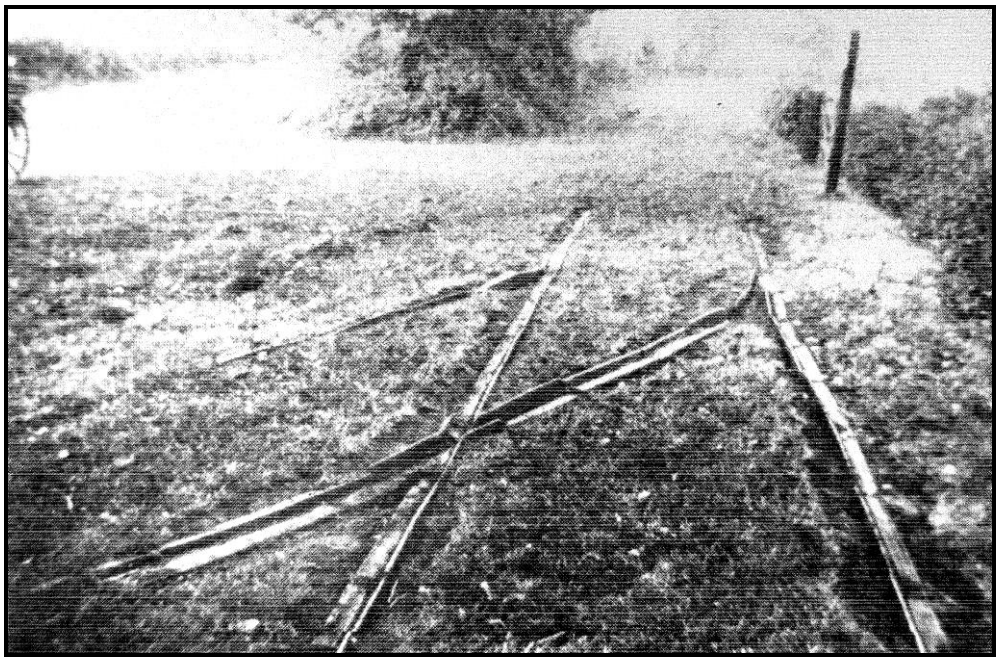
This photograph shows the two sleeper blocks situated in line at 3ft centres on the bridge

Amazingly, a nail / spike had survived in one of the holes in another sleeper block found close to the bridge. This was in a very rusty and eroded condition as can be expected after nearly 200 years. This is shown in the following photographs.

The sleeper stone block found adjacent to the bridge
With the nail/spike shown to the right of the hole

A typical complete nail/spike

A horse drawn wagon typical of those that would have been used on the Dimminsdale tramways. The design allowed for wooden containers to be placed on top, thereby not causing damage to the basic wagon and these could be easily removed and repaired. An example is shown in the following photograph. This particular wagon is on display at the Forest of Dean Heritage Centre.



Part of the Ticknall to Ashby tramway, near the road junction at Staunton Lane with Heath End Lane which shows a primitive points system

PART 14

DIMMINSDALE SUPPLEMENTARY INFORMATION

SECTION A

A WATER WHEEL AT DIMMINSDALE

Enlarged upper section of the map on page 40 showing the location of a water-wheel at Dimminsdale which is marked number 8.

We know that over time there were at least two water-wheels employed at Dimminsdale, as these are mentioned in accounts and leases and it is recorded that in 1779, a can of oil for a water-wheel cost £0. 1s. 6d.

When Joseph Boultbee held a 21 year lease from 1788 for coal, lime and lead mining rights on the estate, it stated that he was given the right to use water from one of the pools (presumably those in front of the hall) to work the pump for the lime works. When William Mathews took out his 21 year lease in 1833, the use of a water-wheel is also mentioned, which based on the above map would have still been in use in 1846.

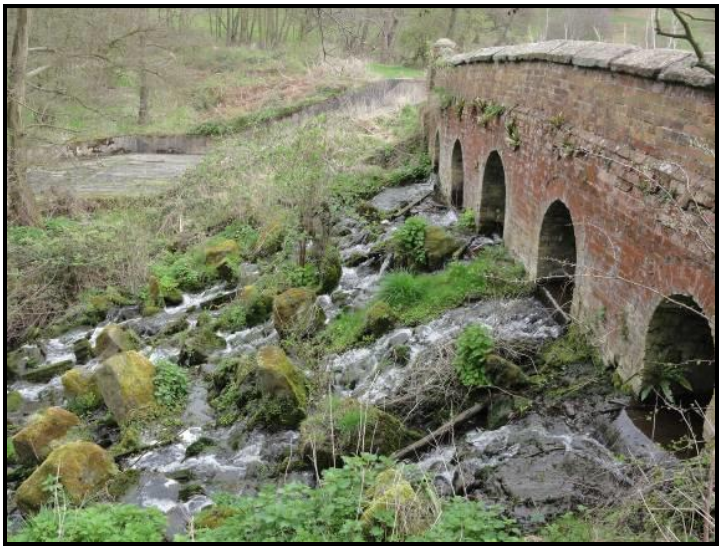
There are two main lakes in the valley below the hall which are linked by a small pond and weir adjacent to the golden gate bridge. The southerly one was sometimes referred to as 'Church Pool' and the northerly one as the Fish Pond or Surpentine Lake which is the lower of the two, hight wise. These lakes (thought to be one lake initially) would have been constructed during the re-landscaping projects started by the 5th Earl as featured earlier and developed from the long sheet of water or canal which can be seen in the earlier Kip Engraving dated 1702. The lakes were formed by constructing an earth dam at the northern end some 15 metres high faced up with boulders to allow the water to cascade down to the brook below via the old five arched bridge which carried a cart track over it, which is shown in the following photographs. The bridge would probably have been constructed in the late 1700's. The 1903 O/S map on the next page

shows the path of Staunton Harold brook meandering down to the east side of Dimminsdale. The brook was formed by excess released water flowing down the lake dam.

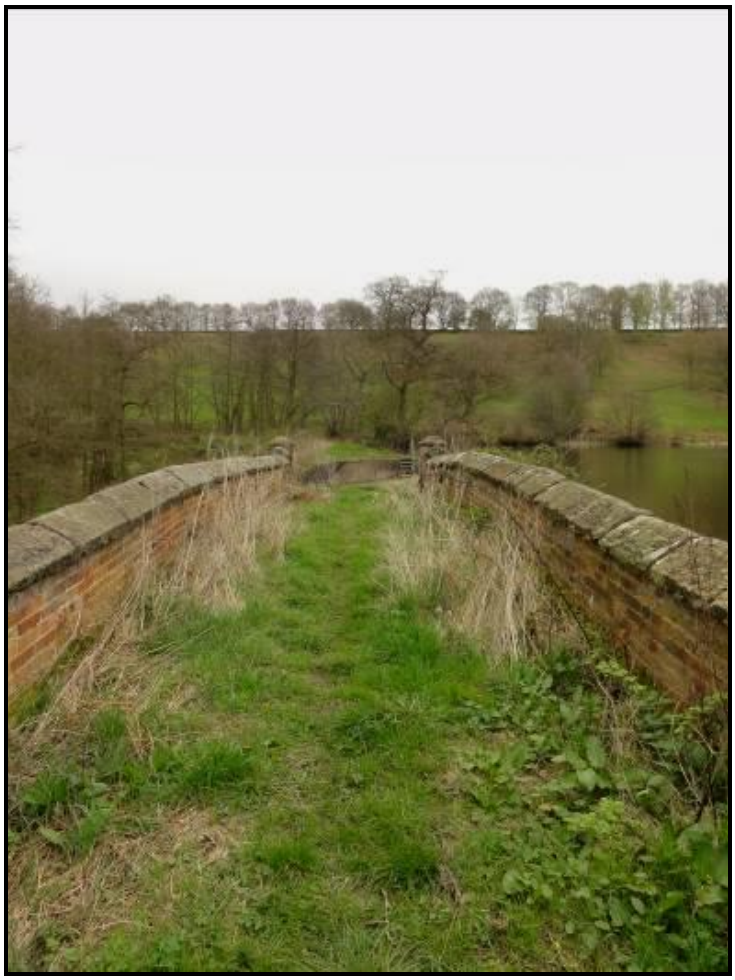
We were shown by John Blunt, the current owner of Staunton Harold Hall, an arched brick lined culvert which ran from the north west corner of Serpentine Lake, roughly taking a parallel path to Staunton Brook for about one third of a mile, for the purpose of diverting a head of water to drive a water wheel for the purpose of operating a pump to remove excess water from the lime quarry. The culvert followed a natural gradient, and water would have presumably entered the culvert via a sluice gate with the lake acting as a form of mill pond. This would presumably have dated back to the late 1700's when Boultbee was working the lime and lead quarries

The broken out brick arched culvert a few yards from the edge of the lake as described above

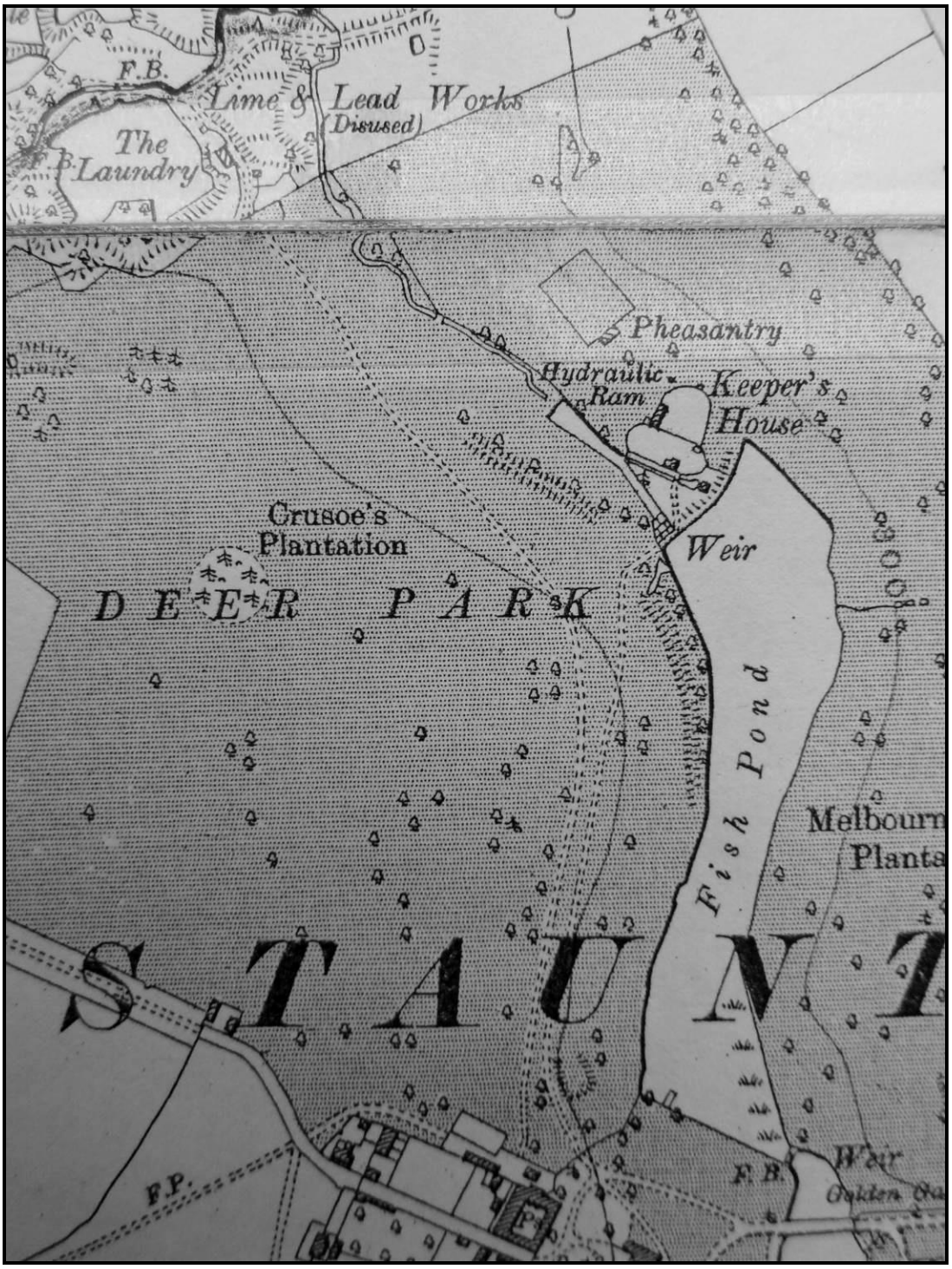
The above photograph is the remains of what we believe to be the stone structure which originally carried the water-wheel. This crossed the brook to the east side of Dimminsdale just before it joins the reservoir.



The old trackway bridge and the lake dam



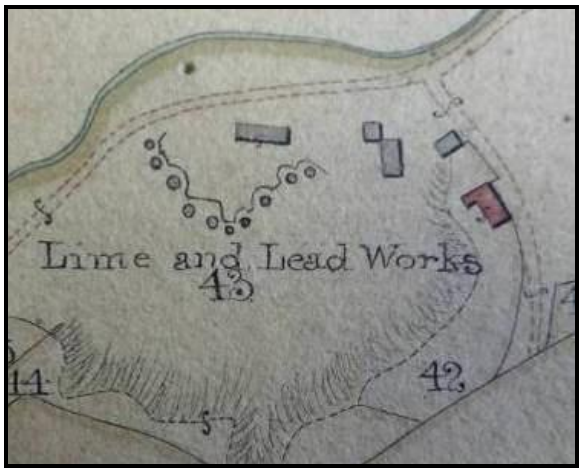
The attractive old bridge running along the top of the dam at the end of the serpentine lake. A cart track ran between the walls of the bridge which later gave access to "Keeper's Cottage".



Both the trackway from the hall across the bridge to Keeper's House and another one down to Dimminsdale can be seen on the above 1903 O/S map.

SECTION B

LAUNDRY HOUSE & LAUNDRY COTTAGE



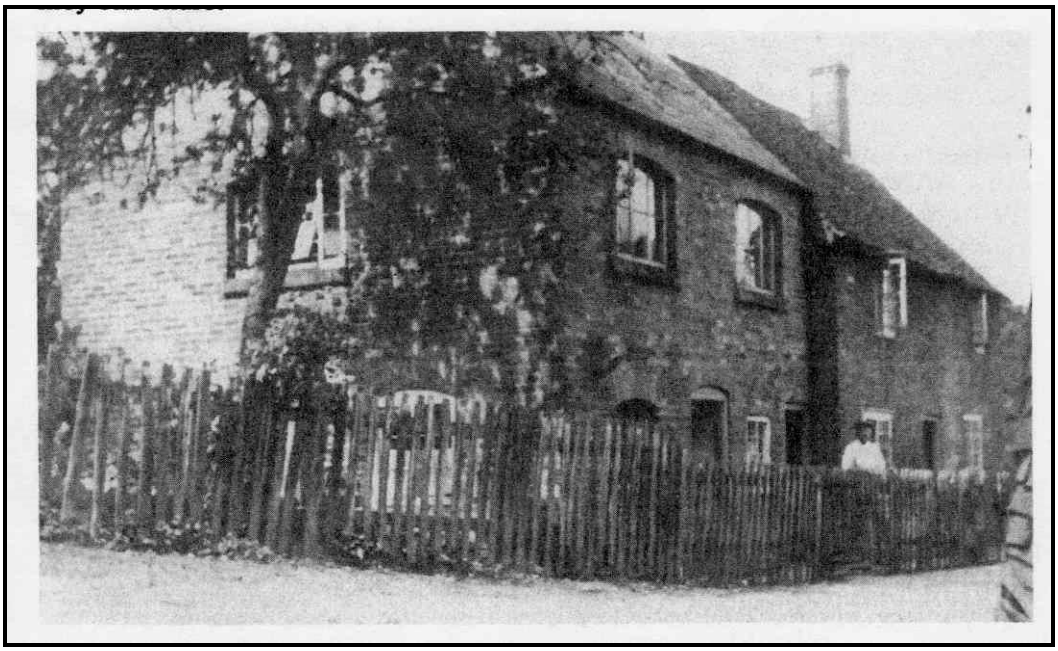
A section of the 1859 estate map showing
"Laundry House and Cottage" coloured red

It is somewhat difficult to understand why the washing of the laundry for Staunton Harold Hall would have been carried out down at Dimminsdale. However, it seems the the washing of laundry for large manors and houses was often carried out as a cottage industry. The clothes, bed-linen etc., would have been collected and then returned after washing, drying and ironing. Coleorton Hall, Calke Abbey and Melbourne Hall all had their own laundry and ironing facilities however.

The earliest reference to a laundry at Dimminsdale that we can find is in the **1861** census when the building is referred to as 'The Laundry', although no one residing there is being listed as a laundress at that time. In the **1851** census there is no reference to a laundry, however, in William Mathew's insurance document shown earlier, it mentions a Laundry near a piped stove which must refer to this one. It is important to remember, that during these times, Dimminsdale was an industrial area based around the lead and lime working quarries. However by, 1860 this had started to seriously decline.

In the **1871** census, three people are listed at Laundry cottage and all recorded as being Laundresses. Sophia Ellis (67), ? Ellis (29, daughter) and Emma Ellis (27).
In the **1881** census, Elizabeth Harris (72, Widow) and her daughter Eliza (39 Widow) who is given as a laundress are listed at Laundry Cottage.
In the **1891** census there is no reference to a laundry or laundress.

'Laundry House' appears to have been built up to the side of an existing thatched cottage at a later date. Census and other records demonstrate that two different families were living in the separate properties over a period. In the following photograph, what we will now refer to as Laundry House is the property on the left. **The foundations of these buildings can still be seen on the eastern rim of Laundry Pool.**



Laundry House (LH side) & Laundry Cottage

Mrs. Eyre in the following photograph outside Laundry House was identified by Raymond Williams. In the **1901** census, her first name is given as Martha and her profession is 'Laundress Worker at home'. Her husband Arthur's profession is given as Woodman at that time, but he was also reputed to act as chauffeur to Earl Ferrers. Two daughters, Margaret and Frances, are also listed.

Mrs. Eyre outside Laundry House
(This is the RH door at the end of Laundry House in the above photograph)
Photograph by kind permission of Ashby Museum

In the **1939** Registration Lists, the following are listed as living at Laundry House (perhaps also in the adjoining cottage), which confirms that the laundry for the hall was still being washed and ironed there at this time:-

Richard Charles	Labourer
Anne Charles	**Laundress**
Richard Charles	General Estate Worker
Alfred Charles	Painter
Mary E Morris	**Laundress**
Winifred Needham	Unpaid

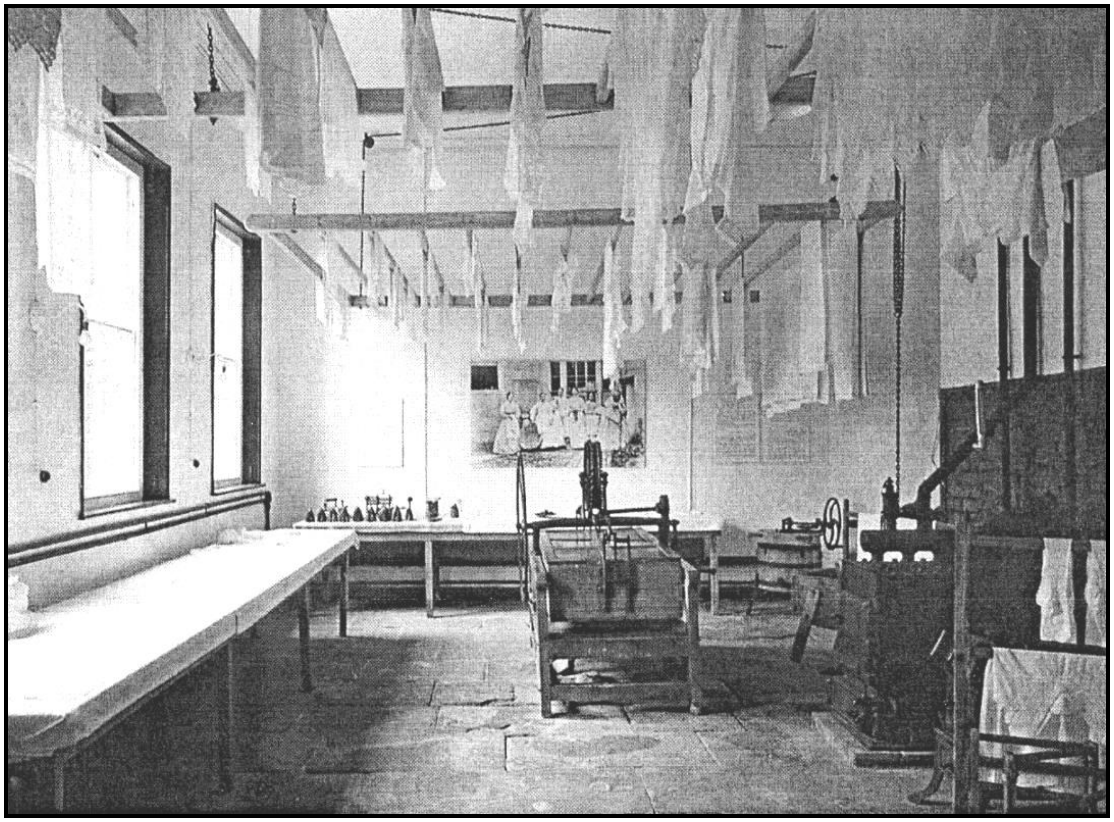
It is thought that the people in the above photograph are Anne Charles (RH side) who was the grandmother of Joan Jackson mentioned below, and Mary E Morris. Joan Jackson's grandfather is shown standing at the front gate in the preceding photograph of Laundry House, and the well which was used for drinking water is in the bottom RH corner.

The laundry was apparently last used in 1942

The following is taken from 'Reminiscences' which appeared in the 'Leicestershire and Rutland Trust for Nature Conservation' newsletter for autumn 1990. The trust has given permission for this to be included here along with the photographs of Laundry Cottage and the Laundresses:-

Joan Jackson recalls that in the laundry there were zinc baths and dolly tubs, and two big coppers which had to have fires lit underneath them to heat the water. There were also two wooden mangles. The drying ground was just inside the park, close to the laundry and was fenced off to keep the animals out. This was in the area of the last photograph shown in this feature.The laundry room was upstairs. It was a massive room with a large table which was used for ironing. There were no electric irons in those days, and the flat irons as they referred to had to be heated by standing them on a grill surrounding a big 'hot iron stone' which heated up the

bottoms. This guaranteed availability of a regular supply of hot irons. A system of horizizontal rollers on the ground floor through which clothes were transferred to squeeze out the water was also described.



The above photograph shows a typical laundry scene of the time with a stone box mangle in the centre which used a system of weighted rollers, probably similar to the one used at Laundry House. Note the various flat irons on the bench at the rear and also on the piped heated stove to the right.

BELOW ARE PHOTOGRAPHS OF SOME TYPICAL IMPLEMENTS WHICH WOULD HAVE BEEN USED IN THE LAUNDRY PLUS A SMALL COPPER (THE COPPERS AT LAUNDRY HOUSE WOULD HAVE BEEN MUCH LARGER THAN THIS).

Mangle with Dolly Tub in front

A Poncher or Podger

A three legged Dolly

A <u>small</u> copper boiler with the copper cauldron covered with a wooden lid for safety - the fire box is at the bottom

Reckit's blues for brightening the whites

The water supply for Laundry Cottage was pumped up from the culverted supply that came from the lake adjacent to the hall which was used to drive a water-wheel as described earlier. It was pumped into a large cistern in the basement of Laundry House and evidence of the steps down to this can still be seen.

Thomas James Williams, who was born in Lount, and his wife Frances Mabel Williams (nee., Hollingsworth) with son Raymond and wife Joan were living at Laundry House / Cottage from 1948 to 1954. Tom Williams became a professional cricket player as did his brother. They formerly lived at Calke Dairy where Thomas was the Calke Estate carpenter but later in 1939 he was listed as a Colliery Carpenter whilst working at Lount Colliery

Hearsay has it, that Laundry Cottage eventually slid down into the pool when the rim of he quarry collapsed, however that is not correct as they were demolished by the water board during the building of the Staunton Reservoir in the 1960's along with all the remaining buildings at Dimminsdale. Apparently, due to their condemned status, as a result of there being no mains water, electricity or sewerage etc., the water board had concerns about pollution of water courses and even extended their demolition to the Keepers Cottage on the estate which is featured earlier.

This recently taken photograph viewed from the chained gate near to Laundry House clearly defines the bed of the winding trackway (Laundry Path) which went from Dimminsdale / Laundry House to Staunton Harold Hall. This is depicted on the preceding 1903 map on page 80.

SECTION C

A LIST OF MEN WORKING IN THE LIME / LEAD WORKS AND COAL MINES OF LOUNT, STAUNTON HAROLD, HEATH END AND DIMMINSDALE AS GIVEN IN THE STAUNTON HAROLD CENSUS RECORDS FOR 1841, 1851 AND 1861

All names potentially associated with either Lime / Lead mining or Coal mining are listed below. Insufficient information is given in the 1841 census to be specific on who was actually working in the lime / lead works at that time, although it is probable that those just given as miners worked there. Lime and lead working at Dimminsdale had ceased by c.1860 and no one was recorded as working there in any of the subsequent census records. The 1861 census records Joseph Watson and George Shaw as working there as “Stone Miners” but it is thought that they would have been getting stone from the shallow quarries beyond the edge of the top rim of Laundry Pool for use on the estate for wall building etc. Evidence of these shallow quarries can still be seen today. People continued to live at Dimminsdale into the 1950’s.

STAUNTON HAROLD 1841 CENSUS

Name	Place of residence	Age	Profession
John Stewart	Lount	65	Colliery harrier
John Stewart	Lount	25	Engineer
Joseph Bird	Lount	20	Collier
Joseph Bird	Lount	20	Collier
John Bird	Lount	35 ?	Collier
John Bird	Lount	15	Collier
James Bird	Lount	25	Collier
William Bird	Lount	40?	Coal miner
Thomas Cutler	Lount	45	Collier
Alfred Cutler	Lount	15	Miner
William Cutler	Lount	40	Miner
John Cutler	Lount	45	Collier
John Eaton	Lount	20	Collier
William Fairbrother	Lount	15	Collier
James Holmes	Lount	35	Collier
John Johnson	Lount	30	Collier
Thomas Vallance	Lount	40	Collier
Richard Maltby	Lount	45	Collier
William Springthorpe?	Lount	71	Collier
Edward Holmes	Lount	30	Collier
William Dunnicliffe	Staunton Lane	20	Miner
George Shelldon	Staunton Lime Kilns	35	Miner
Thomas Dent	Heath End	23	Engine man
William Shakespeare	Lount	25	Collier
Thomas Riley	Lount	20	Collier
Robert Bostock	Staunton Lane	25	? Engine
Henry Waldren	Springwood Lane	15	Miner
Alick White	Staunton Lime Kilns	45	Engine man
Thomas Morley ?	Heath End	23	Engine man
Joseph Gordal	Heath End	20	Miner

1851 CENSUS

John Ellis	Heath End	50	Lime Stone Miners

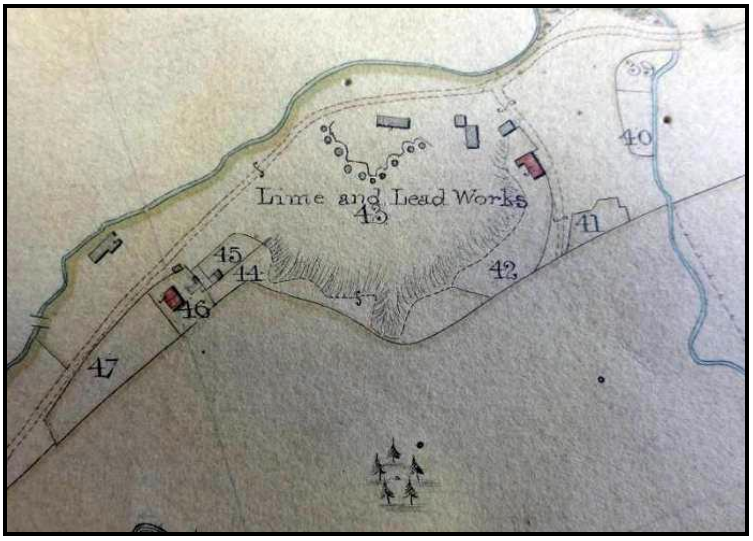
John Ellis	Staunton	26	“
Joseph Ellis	Heath End	37	“
Thomas Farebroth	Staunton	28	“
Shelldon?	Heath End	22	“
William Slack	Heath End	30	“
John Watson	Lount	38	“
Thomas Watson	Heath End	44	“
Job Hall	Heath End	53	Lead Miner
William Watson	Heath End	13	Coal Miner
Thomas Astall	Lount	26	“
Benjamin Benngin?			
John Bird	Lount	26	“
Joseph Bird	Lount	51	“
Joseph Bird	Lount	32	“
Joseph Bird			
William Bird	Staunton	59	“
Joseph Cutor	Lount	16	“
William Cutor	Lount	58	“
Frederick Cutler	Lount	16	“
Thomas Cutler	Lount	33	“
William Farebroth	Lount	29	Coal Miner
Samuel Holner	Lount	44	“
Joseph Holmes	Lount	18	“
Joseph Johnson	Lount	42	“
John Johnson	Lount	15	“
Joseph Johnson	Lount	10	“
John Richards	Lount	29	“
William Richards	Lount	57	“
John Shakespeare	Lount	29	“
Samuel Shakespeare	Lount	24	“
John Stewart	Lount	38	“
Thomas Valance	Lount	53	“
William Valance	Lount	22	“
Thomas Watson	Heath End	14	“

1861 CENSUS FOR LEAD AND LIME WORKS ONLY

Joseph Watson	Staunton	44	Stone Miner
George Shaw	Staunton	39	Stone Miner

SECTION D

THE SHAW FAMILY WHO LIVED AT DIMMINSDALE



Section of 1859 estate map

The cottage on plot 46 of the above map originally consisted of two semi-detached properties. Both were occupied at one time by the Shaw's as they were such a large family, having eight children. Census records show that prior to occupation by the Shaws, separate familes lived in both cottages.

Part of the following is based on information contained in the book entitled "The Mines of Ticknall and Staunton Harold" by Howard Usher. Thomas Shaw had obtained a job as a Woodman on the Staunton estate c.1900 at the time the 10th Earl Ferrers was in residence.

Long Tom Shaw – Became Head Woodman on the Staunton Harold Estate

As the cottages on plot 46 of the 1859 map went with the position, the family moved to Dimminsdale. The location of the cottage was in the middle of what is now the well known snowdrop plantation which formerly took in the gardens numbered 44, 45 and 47. Clearly, the thousands of people who come here to walk through the snowdrops have no idea of what was going on in this area in former times.

Thomas' son Ernest recalled that when they moved to Dimminsdale, the quarries were no longer working, and the three lime pits were all flooded. The children would skate on the lime pits unaware of how deep they were.

The children went to the School at Staunton and in order to get there, they had to take the bridal path behind the hall kitchen gardens (now the nurseries) to Lount, so that they could not be seen from the hall. It was necessary to obtain permission to walk on the roads in front of the hall. **If Earl Ferrers passed by, the ladies would have to curtsey, and the men would raise their hats.**

The cottage was brick built and white-washed, consisting of a living-room with scullery attached and the best room downstairs. In the living-room was a brick fire place with a side oven. Upstairs there were two bedrooms. Large gardens went with the cottage, which can be seen on the 1859 map, and there was a two seater privy in the garden. Thomas also kept a pig. Water was collected in a bucket from a cistern which we understand had been diverted from the piped supply that came from the dam at the northern end of the lake adjacent to the hall to drive the water-wheel. This is explained in more detail earlier in the book.

Thomas built an oven for baking bread, in the bank at the end of the house, and a recently taken photograph of the remains is shown below. In the 1901 census, just after the Shaw's had moved to the cottage, Tom Shaw's son is listed as a "Baker Boy". Presumably they bake bread to deliver to the locals, or even Staunton Harold hall. Others residing there were Elizabeth (wife), Ernest (son) and Sarah (daughter).

Below is a photograph taken on a primrose bank outside the cottage c.1900 which shows Thomas with his wife Elizabeth, together with their seven sons and only daughter Sarah.

Stone and bricks from the cottages, garden walls, and outbuildings, can still be seen either side of the current path which bypasses the snowdrop area, and is shown in the photograph below.

Apparently, the quarry was flooded when Ernest moved to Dimminsdale c.1890, but his father Thomas remembered it working, and had been into an opening in the pit, which was the lead mine. The opening led into a large cavern in which he recalled, you could turn a wagon and six horses round. This cavern was apparently located roughly under the clump of five trees shown at the bottom of the preceding 1859 map. The **1952 to 1954** Electoral Role showed Daisy Webster and Oriel Webster as living at Laundry Cottage, before the house was demolished c.1960.

SECTION E

LIMESTONE QUARRY SHAFTS AT DIMMINSDALE

Based on a diagram provided to the author by Dr Frank Ince of the Russell Society, a total of 8 shafts have apparently been identified at Dimminsdale, including 2 brick lined shafts.

A further 3 potential shafts at Dimminsdale are described as – Shallow circular depression in the meadow and 2 shafts / adits.

A possible shaft just north of Red Brook on the Calke side and adjacent to the Calke south west quarry has been identified also.

This view is looking up laundry path to the hall from Dimminsdale and shows four of the shafts. The 1903 O/S map on page 80 depicts this pathway. The photograph is from Dr Robert King's collection and copyright is owned by the originator

SECTION F

THE EARLY LIFE OF WILLIAM MATHEWS OF ASHBY DE LA ZOUCH 1788 - 1855

John Mee Mathews of Ashby de la Zouch, in his will dated 10th September 1829, was given as an architect and builder. His son William, born in 1788 followed in his father's footsteps, and became, an architect and builder of some importance in the locality.

A reference to William Mathews occupation as a joiner was given in the St. Helen's baptism records for his 10 children, who were baptised between 1807 and 1824. His children's names in chronological order were Harriet, Caroline, George, Jane, Rosamond, Sarah, Marionne, Elizabeth Mee, William and John Mee.

By 1841, according to Pigot's Directory, William Mathews is referred to as an architect but earlier research in 1821 and 1833 refers to him as being an architect at that time. It is not known what qualifications you needed to have to be an architect at that time, and the RIBA was not established till 1834.

In Pigot's Trade Directories 1822, 1828 &1829, William Mathews of Market Street, was listed as being a builder. By 1830, Pigot confirms that at the age of 42, he was in a partnership with John Salisbury (senior), aged 44 of Ashby, in a company named "William Mathews & John Salisbury Builders".

William's early qualification as an architect is confirmed by the fact that in October 1824 he was asked to draw up plans for a new Workhouse. He had the plans ready by the next meeting in June when Mathews & Salisbury estimated that £1,200 would be required to erect the new building.

At that time, William was listed as secretary of the "Saving's Bank" in Ashby.

Ashby-de-la-Zouch Union Workhouse was built in 1826. The site was to the east of the town on the south side of Nottingham Road. In 1836, the Ashby-de-la-Zouch Poor Law Union was formed. The workhouse, which had previously operated as a parish workhouse was taken over by the union and enlarged at a cost of £1,600. The building had a large rounded protruding entrance facing north and was roughly cruciform in design with wings for male and female inmates either side of the centre. In 1886, plans were drawn up for proposed alterations and additions to the vagrant wards. In 1893, a detached isolation hospital was added to the east of the site. It was a two storey building with small wards opening off a main corridor. The workhouse buildings were demolished during the 1930s and a depot was built on the site.

In June 1826, a committee reconvened to consider three tenders for the building of the Royal Hotel, one of which was from William Mathews & John Salisbury for £8,500. This was significantly higher than the other two tenders and the contract was awarded to Mark King who tendered for £6,230. 13s. 0d.

William Mathew's partnership with John Salisbury (senior), continued in several forms until at least 1846. John Salisbury's son of the same name became a man of some standing in Ashby and was a leading builder and architect of his time also. In fact, when he was residing in Lower Brook Street in 1871, he was listed in the census as being head town surveyor and architect.

In 1833, William Mathews (architect) had taken out a lease for 21 years with Earl Ferrers for coal mines at Heath End / Staunton Harold, and the lead and lime works at Dimminsdale.

Although by 1841 William Mathews would have been heavily involved with his activities in the coal mining and Limestone & Lead mining at Dimminsdale, he was still involved with John Salisbury. In fact, they are still recorded in Pigots directory of 1841 as brick makers.

Construction of coal mine shafts, works buildings plus local building contracts would have consumed a significant amount of bricks, and there is evidence that William Mathews leased the Brick Yard adjacent to the Workhouse on Nottingham Road.