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TOFT GATE LIMEKILN

N.G.R. SE 1300 6440

ARCHAEOLOGICAL SURVEY
A REPORT FOR
THE MOORHOUSES RESIDENTS GROUP
BEWERLEY
NORTH YORKSHIRE

PARISH: 6059

N.Y.C.C. ENVIRONMENTAL SERVICES	
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TOFT GATE LIMEKILN

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**TOFT GATE LIMEKILN
BEWERLEY
NORTH YORKSHIRE**

SUMMARY

The recent archaeological survey of Toft Gate Limekiln, Bewerley, North Yorkshire has demonstrated that the monument complex is unique and as such should be recognised as a site of both regional and national importance.

The survey has also identified that the built remains are in an advanced state of decay. In order to arrest this instability and stabilise the monument for future generations it is recommended that an extensive programme of consolidation works is implemented as soon as possible.

This report details the nature and aims of the project, as well as presenting the results of its research with recommendations.

ACKNOWLEDGEMENTS

On behalf of the project team, the help and advice of the following bodies and individuals is gratefully acknowledged; The Countryside Commission for funding this project, The Moorhouses Residents' Group and particularly Biddy Noakes; North Yorkshire County Council's Heritage Unit, particularly the Sites and Monuments Record officer Linda Smith; Yorkshire Dales National Park Authority, particularly the parks Archaeological Officer Robert White; The Craven Museum, particularly the museum's curator Siobhan Kirrane and the museum attendants; The Nidderdale Museum, the stewards of which were helpful and supportive of the project.

The team are indebted to the work of the late Griff Hollingshead whose interest in the industrial archaeology of the Dales led him to Toft Gate where he made the first record of the monument.

The author wishes to extend his personal thanks to Mr. & Mrs. David Prince and Family, Toft Gate Farm who welcomed the team onto their land and provided us with vital details on the monument. Also my thanks are extended to Mr. Marshall, Staveley who welcomed us into his home and shared his memories of the lime burners and lime industry on Greenhow Hill.

Finally the author wishes to thank the other members of the project team in particular, Stephen Haigh and Barry Nuttall.

INTRODUCTION

On the 27th August 1999 Kevin John Cale, Archaeological Consultant, was engaged to carry out an archaeological survey of the Toft Gate Lime Kiln complex, Beverley, North Yorkshire. The complex contains an unusual example of a vertical-feed kiln and associated features, including a horizontal flue, square chimney, pond, trackways and quarries.

The site occupies a commanding and elevated aspect overlooking Nidderdale and beyond the Vale of York. This, together with its location adjacent to the B6265 Grassington to Pateley Bridge highway, has meant that the monument has become a local land mark. However, despite its prominence the monument has not been the subject of any previously known detailed archaeological or historical research. Consequently the monument is little understood and many misconceptions abound concerning its date, origins and former use.

The survey was funded by the Countryside Commission as the concluding phase of works being undertaken in the locality by the Moorhouses Residents' Group.

It is intended that the survey will be developed and utilised in any future consolidation works to the monument and to support and assist in the future management of the site. Beverley Parish Council has expressed an interest in taking over the management of the complex and providing on-site interpretation.

The scope, nature and outcomes of the survey were set down in a detailed project design that was compiled by Mr.K.J.Cale and Mr.S.Haigh. The project design was prepared in accordance with a brief compiled by the Heritage Unit of North Yorkshire County Council (NYCC 1999) and to advice published by English Heritage (English Heritage 1991).

SITE LOCATION

The site is located on the south side of the B6265 road, approximately 1km east of Greenhow Hill village, at NGR SE 130 644, at 371m AOD. It lies within the rural parish of Beverley in the Harrogate district of North Yorkshire.

The monument is situated within the northern extent of a large field of unimproved pasture known by the present and former owners as 'The Old Moss Pits'.

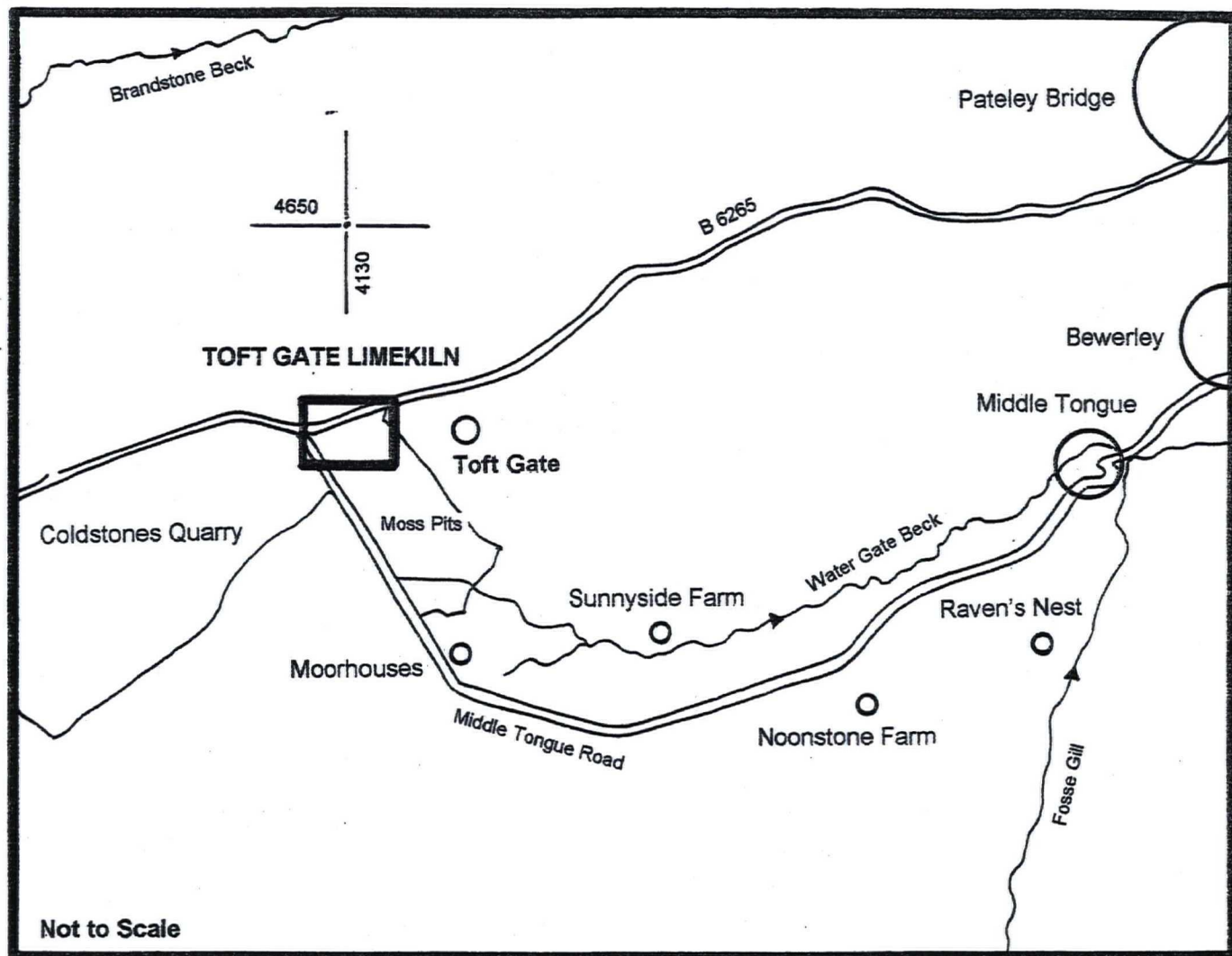
Access to the site is by vehicle or foot via the gate on the B6265.

Geology:

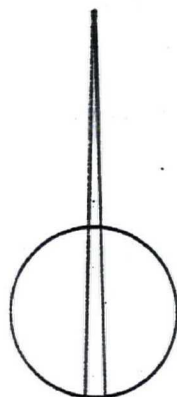
The surface geology outcrops across the site with no overlying glacial drift.

The surface geology is Toft Gate Limestone that dates to approximately 330 million years ago. The limestone forms the upper limestone sequence and is fossiliferous, containing a high quantity of crinoids.

FIGURE 1



TOFT GATE LIMEKILN
BEWERLEY - 6059
NORTH YORKSHIRE
SITE LOCATION
NOVEMBER 1999



Soil:

** delete*

The soil within the study area has been identified by the Soil Survey of England and Wales as 721c belonging to the ~~120~~ Wilcocks 1 Association. Within this association the sub soils are predominantly sandy clay loam with peaty topsoils. These soils are seasonally waterlogged, and are situated on gentle to moderate slopes between 150-600m AOD, often overlying Carboniferous geology

STATUS

The site is not statutorily protected although it was assessed by English Heritage in 1996 as part of the MPP Step 3 'Study of the Lime, Cement and Plaster Industry'. English Heritage determined the site as nationally important, due to the rarity of the design.

The site lies within the recently designated Nidderdale Area of Outstanding Natural Beauty.

OWNERSHIP

The site is owned by Mr. & Mrs. D Prince of Toft Gate Farm, Bewerley, Harrogate, North Yorkshire.

BACKGROUND TO PROJECT

The survey was commissioned by the Countryside Commission who have been supporting the Moorhouses Residents Group in their landscape study of the valley of Moorhouses, under The Countryside Agency Local Heritage Initiative Pilot Project.

It was determined that the survey was required for the following reasons:

- 1) to arrive at a greater understanding of the monument and the processes carried out;
- 2) to act as a record of its current condition;
- 3) to supply information so that decisions can be made about consolidation to be carried out in a subsequent phase;
- 4) to instruct the Moorhouses Residents' Group in the lime kiln industry with specific reference to the Toft Gate complex involving lectures and practical dayschools

METHODOLOGY

The archaeological survey and recording comprised of the following; a documentary study, a topographical survey, a detailed drawn survey of structural elements, and a photographic survey.

- 1) The documentary study examined readily available maps, plans and other documents at record offices and local libraries. A map regression analysis was carried out.
- 2) The topographic survey was carried out within the curvilinear corridor occupied by the built remains of the monument. This was supplemented, with the surveying of peripheral earthworks that were shown to have been an integral part of the lime kiln complex.

The survey was carried out for the most part with an EDM total station theodolite. The survey recorded all boundaries, earthworks, upstanding structures and areas of rubble collapse within the survey area. The survey was then enhanced by subsequent observations in the field.

A hachured plan, showing all topographical, archaeological and other features was produced from these surveys, at appropriate scale (1:500).

- 3) The detailed drawn survey of the structural remains on the site involved the production of plans, sections and elevation drawings. The plans were based on those recorded during the EDM survey and enhanced by hand measurement. These drawings were drawn at a scale not smaller than 1:100 (1:50 for sections and elevations). Specifically the detailed drawings include:
 - the overall layout of the kiln, flue and chimney
 - detailed plans of the kiln on at least two levels
 - a detailed plan of the chimney
 - two vertical sections through the chimney
 - two vertical sections through the kiln and its arch
 - at least two vertical sections through the flue
 - external elevation drawings of the kiln and arch
 - external elevation drawings of all sides of the chimney
 - selected external elevations of the flue, where significant proportions of the fabric survive.

The elevation drawings were achieved using a combination of scaled photographs and hand measurement. They do not show all individual stones, but identify changes in fabric, all openings or alterations, different stone types, and any other significant features.

- 4) The photographic survey comprised both general and detailed views of the site components, including views of the complex in its setting. Particular attention was paid to contrasts caused by the use of different stone types. The photographic survey was carried out using a medium format camera with shift lens where appropriate for black and white photography, and a 35mm camera for colour slides / prints. All photographs have been printed with each one clearly labelled and cross referenced to a list detailing the subject, orientation, date taken, photographer's name, film and negative numbers.

The Black and White Prints and negatives have been deposited with the site archive at the Sites and Monuments Record, Northallerton.

HISTORICAL BACKGROUND

Documentary Sources

The earliest references to Toft Gate appear in the monastic records pertaining to the Grange at Beverley.

At Toft Gate the network of medieval and post medieval tracks and footways converge. During this period Toft Gate was situated on a main thoroughfare between Nidderdale and Craven at the interface between Beverley Rigg and Greenhow Moor and as such was ideally situated as a convenient meeting place. The inclusion of the 'Gate' within its place name further supports this, as Gates (often now corrupted to Yates) were the foci of activity for more than one community. It is documented that during the late 15th century Toft Gate was the named site for the gathering of livestock belonging to Beverley Grange, the site being conveniently located on route between grazing grounds in Craven and Nidderdale.

Recent documentary studies undertaken by the Moorhouses Residents' Group indicate that the study area most probably lies within the curtilage of the monastic lodge at Moorhouses. The lodge was established in the early 13th century by Fountains Abbey as one of a number of similar units under their Grange at Beverley. Toft Gate was situated on the northern extremity of the medieval field system that was farmed by the lodge. It is likely that the community were principally engaged in the rearing of cattle and sheep, however as with its neighbouring lodge at Coldstones, the Moorhouses community are likely to have been involved in the lead mining industry. It has recently been pointed out that Moorhouses has historically been referred to as 'Merehouses', the right to work lead was measured in 'meres' which does support this possibility.

By the mid Post Medieval period it is clear that lead mining was still a principal concern of the Toft Gate area. In 1585 John Wood leased the right to enclose approximately 10 acres of common land near Toft Gate for the purpose of lead mining from Thomas Benson (the purchaser of Bewerley Manor). It is documented that this holding was assigned to Oliver Thacker who on failing to meet his rent lost his lease. On recovering the Toft Gate holding Thomas Benson worked the mines directly.

No 19th or Early 20th century documentary (published or unpublished) reference to the Toft Gate Lime Kiln has been identified. General references to the lime industry are to be found in Grainge's publication Nidderdale, 1868, where it is noted that during this period lime works were situated on the south side of Coldstones Hill. However, contemporary map evidence would suggest that Grainge may have been mistaken or disorientated as no kilns have been identified to the south of Coldstones. It is possible that he had intended to make reference to the Toft Gate works on the east side of Coldstones.

A consultation of local records (See Appendix A) that include Census Returns, Valuation Books, Baptism Registers, Burial Registers and Commercial Directories has enabled a list to be compiled detailing those individuals associated with the lime trade in the township/parish of Bewerley, during the 19th and Early 20th century, namely;

Name	Occupation	Date	Source	Address
Ward Grange	Lime Burner	1830	Pigot directory	Bridgehousegate
	Lime Burner	1834	Pigot directory	
James Bentham	Lime Burner	1841	Pigot directory	Greenhowhill
William Brookes	Lime Burner	1841	Pigot directory	Bewerley Road
Christopher Daggitt	Lime Burner	1848	Slater directory	Greenhowhill
John Daggett (1807-)	Lime Burner	1838	White directory	Bewerley
	Lime Burner	1841	Pigot directory	Street Lane
	Lime Burner	1848	Slater directory	Street Lane
	Lime Burner	1851	census	Street Lane
Henry Stockdale (1814-)	Lime Burner	1851	census	Greenhowhill
Mark Dinsdale (1814)	Linen Weaver	1841	census	Low Mill, Thruscross
	Lime Burner	1851	census	Bewerley
	Lime Burner & Farmer	1861	census	Raddlish Top
	Lime Burner & Farmer	1871	census	High Ridlish
	Lime Burner	1881	census	Little Redlish
Edw Whitehead (1805-)	Lime Merchant	1861	census	Greenhowhill
Joseph Rhodes (1826-)	?Lime maker	1861	census	
Abraham Baines (1838-)	Lime Burner	1881	census	
Joseph Dinsdale (1839-)	Son of Mark & H. Dinsdale	1841	census	Low Mill
	Lime Burner	1861	census	Raddlish Top
	Carrier & Farmer	1871	census	High Ridlish

Elisha Newbould (1831-1906)	Miner, Landowner,			
	Farmer	1871	census	Newboulds Houses
	Farmer, Lead Miner,			
	Prim Meth. Preacher	1881	census	Newboulds Houses
	Lime Burner	1889	Kelly directory	Greenhow Hill
	Lime Burner	1893	Kelly directory	Greenhow Hill
Moss Newbould	Lime Burner	1897	Kelly directory	Greenhow Hill
	Lime Burner	1901	Kelly directory	Greenhow Hill
Arthur Storey	Lime Burner & Farmer	1908	Kelly directory	Greenhow Hill
	Coldstones Quarries			
	& Lime Works	1917	Kelly directory	Coldstones
	Coldstones Quarries &			
Arthur Storey	Lime Works	1922	Kelly directory	Coldstones
	Coldstones Quarries &			
	Lime Works	1927	Kelly directory	Coldstones

The list would suggest that the lime industry within the township gradually expanded during the early 19th century and peaked during the mid to late 19th century. It is interesting to note that many of those engaged in the industry did so on a part time/seasonal basis, a detail recently corroborated by Mr. Marshall. It is likely that many of the limeworkers were employed in the small scale field kiln industry. Unfortunately it has not been possible to associate any of the above names with the Toft Gate lime works. Mr. Marshall's recollections of local names and trades has eliminated a number of the above from having Toft Gate connections namely the Newbould and Storey families, the former being concerned with the Duck Street Quarries and the latter with the Coldstones Quarries / Kilns.

From the 1910 Valuation Books it has been established that a Stephen Gill from Lothersdale in Craven owned land and buildings (valued at £5) on Greenhow that were occupied by Harry Walton. It has not been possible to identify the location of this holding, however the Lothersdale connection with the locality is interesting given the similarities in design between the Toft Gate kiln and those found at Raygill, Lothersdale (for further details see 'Monument Interpretation').

Residents and former residents of the local community have supplied valuable oral communications regarding the limekilns of the area.

Mr. Marshall, a 92 year old former resident of Greenhow, recalled his memories of lime-burning at Greenhow during the early years of the 20th Century. He knew William Storey, the son of Jack and Adah Storey, overseer for the Pateley Bridge Rural District Council and also his brother Arthur Storey, schoolmaster at Bridgehousegate, who operated lime kilns at Coldstones. Mr. Marshall did not remember the Toft Gate Lime Kiln in operation and was unable to throw any light on the owners or those who have worked the complex.

Mr. Alwyn Alsop, Mineral Farm, Dacre recalled that his father remembered the last wagon load of lime being led from Toft Gate in the first few years of the 20th Century. The lime was apparently transported a short distance down Greenhow Hill and used in the construction of dwelling.

Griff Hollingshead was the first to research and document the Toft Gate site. Sadly Griff recently passed away, however, the Hollingshead archive has been lodged with the Craven Museum at Skipton. This source was consulted and was found to be invaluable. Griff's first interest in the site goes back to his friendship with Arthur Raistrick who recalled his early memories of the site. Apparently Mr. Raistrick remembers a journey during his childhood between Pateley Bridge and Grassington, when visited site to the lime drawers' hut to warm his hands. Griff first brought the Toft Gate complex to public attention in his illustrated article in the Dalesman magazine. The site was later revisited during the late 1980's when he illustrated the principal components of the monument. Griff's research and interpretation of the kiln will be discussed later.

Map Sources

Late 18th Century:

The Toft Gate area is depicted very generally on Jeffrey's Map of 1779 upon which the study area is partially obscured by the text 'Cold Stones Moor'. The map clearly depicts the Grassington / Pateley Bridge road as an unfenced thoroughfare.

Early / Mid 19th Century:

On the First Edition Ordnance Survey map of 1854 the study area is clearly depicted. The text Toft Gate appears to correspond to a 'gate' on the Grassington to Pateley Bridge Road. The study area lies immediately adjacent but outside the enclosed field system in an area of open ground named as the 'Moss Pits'.

The site is dominated by a large Limestone Quarry, centred at N.G.R. 41292 46437. This quarry is rectilinear in planform with a principal eastern alignment and a north facing aspect. The workings straddle the Grassington / Pateley Bridge road. Access to the quarry is from the north via a slip road / track off the Grassington / Pateley Bridge road.

One further minor quarry workings can be identified within the eastern extent of the study area. This structure, depicted with quarry mapping conventions, is located at N.G.R. 41309 46443. The quarry is square in planform and measures approximately 18m x 18m. Access to the quarry is via a sinuous track off the Grassington/Pateley Bridge Road. The track traverses the study area on a northern alignment and continues beyond the quarry to the south towards Moorhouses Farm.

A single bell pit is identified within the north eastern extent of the site at N.G.R. 41308 46447. No direct access to the structure was noted. The structure measures approximately 13m in diameter. The form of the structure and the conventions used to depict same is similar to a complex depicting the workings on the Carnet Vein at Coldstones.

A single shaft can be identified adjacent to the eastern boundary wall of the study area at N.G.R. 41311 46443.

Access to the feature appears to be afforded by a rectilinear track that shadows the field wall that forms the eastern boundary to the study area. The track enters site via a gate off the Grassington / Pateley Bridge road and continues beyond the shaft to High Fleak Gate.

As has already become apparent the study area is dissected by a network of tracks, the majority of which appear to afford access to the above workings off the main Grassington to Pateley Bridge Road. Many of the tracks continue beyond the site to farms to the south and south east. However one further thoroughfare, centred at N.G.R.41303 46443, aligned north north east affords access from the Grassington / Pateley Bridge road to the centre of the study area. Unfortunately the text 'Limestone Quarries' obscures the structure that the track is servicing. The linework beneath this annotation appears to consist of a 1200' contour together with what may appear to be a detached quarry and a building to the north east of same.

The map makes no direct reference to a limekiln on site. However the map identifies two limekins at N.G.R. 41325 41362, 300 m to the north east of the site and at N.G.R. 41326 46423, 800 metres to the west south west.

Mid 19th Century:

On the 1867 Staffordshire Enclosure Map Toft Gate is named adjacent to the Grassington / Pateley Bridge road at the interface between the Staffordshire Sale Lot II and land belonging to John Yorke Esq. The study area falls into the ownership of John Yorke. The area is devoid of detail and annotation. A small sub-rectangular shaped enclosure is situated to the north west of the study area and is named as a 'Public Quarry'. The quarry is contained to the west by the recently constructed Middle Tongue Road, to the north by the Grassington / Pateley Bridge Road. The site of the quarry correlates with the north western extent of the limestone quarry as noted on the 1854 map.

It is of note that the site of Toft Gate Farm has been depicted on the map. However it is named 'Toft Riggs'.

The Skipton / Bradford Survey map, revised in 1869 appears to be largely general and schematic. The study area is vaguely discernible and appears to depict a narrow, walled enclosure. The enclosure is aligned east north east and runs parallel and adjacent to the Grassington / Pateley Bridge road. The enclosure is devoid of any detail. Towards the eastern extent of the enclosure a thoroughfare is depicted that affords access from Rat Row to High Fleak Gate.

Toft Gate Farm is not depicted or named.

The Middle Tongue road is not depicted.

Late 19th Century:

On the 1895 Ordnance Survey map the study area is situated within the northern extent of large irregular shaped field with seven boundaries.

The field is contained to the north by the Grassington / Pateley Bridge road and to the west by the Middle Tongue road. To the east and south the field is contained by a rectilinear boundary wall.

A limekiln structure named 'Limekiln' is located within the northern extent of the field at N.G.R. 41303 46439. The linework depicting this feature does not differentiate between what is built and what is excavated. The structure consists of five adjoining components, all of which are rectangular in planform and vary in size.

The kiln is attached to a flue (not named) that extends to the south west, centred at N.G.R. 41298 46438.

The flue extends towards a chimney (not named) that is located towards the western extent of the study area at N.G.R. 41295 46434. This small square structure appears to be attached to the flue.

The kiln complex is accessed from the north east off the Grassington to Pateley Bridge road via a trackway (not named). This curvilinear thoroughfare is centred at N.G.R. 41307 46441. The track increases in width towards its south western extent. The track terminates adjacent to the southern extent of the kiln. Within the central section the track forks to the west affording access to a large quarry where it terminates at a junction with a third track that is aligned north and affords access from the quarry to the Grassington / Pateley Bridge road.

A second track is also identified. This thoroughfare appears to afford access from the Grassington to Pateley Bridge road to the western terminus of the principal track and the large quarry adjacent to the kiln. The track is aligned north and is centred at N.G.R. 41300 46441.

The large quarry adjoining the north western corner of the kiln, centred at N.G.R. 41300 46439 has a sub rectangular planform with a prominent east and north facing aspect.

The study area supports minor quarry workings, centred at N.G.R. 41304 46443 that are principally contained in the wedge shaped area of the site bounded by the Grassington / Pateley Bridge road and the two access tracks. The workings consist of three quarry scoops with a south south east facing aspect. The workings are accessed from the principal limekiln access track.

An isolated working is depicted towards the eastern extent of the site, located to the immediate south of the principal access track at N.G.R. 41309 46445. The working has an elongated lozenge shape which may suggest an adit type excavation.

The suggestions of the early limestone quarry workings are depicted within the western extent of the site encroaching into the study area from the small rectangular enclosure, named on previous maps as a public quarry.

To the west south west of the Limekiln complex an isolated circular feature has been surveyed.

The structure is located at N.G.R. 41297 46428 and has been depicted as a simple circular feature with no further details to indicate its nature or function.

By 1895 the network of thoroughfares that had previously traversed the study area on route for surrounding dwellings have with the exception of one such structure, not been depicted. The surviving through road runs parallel to the eastern boundary wall on route from the Grassington to Pateley Bridge road to High Fleak Gate.

The 1895 map also depicts those same limekilns as identified on the 1854 Ordnance Survey map at N.G.R. 41325 41362 and at N.G.R. 41326 46423. The former of which has been considerably enlarged and consists of a twin kiln structure and a large quarry.

Early 20th Century:

The 1909 Ordnance Survey map provides us with the most detailed cartographic representation of the limekiln complex at Toft Gate (Figure 3).

The study area is contained within the northern extent of an enclosed field (OS No.693) with an area of 34.296 acres. The size of the field has been enlarged since the 1895 survey, with the southern boundary being extended to the south.

The limekiln complex consists of the following;

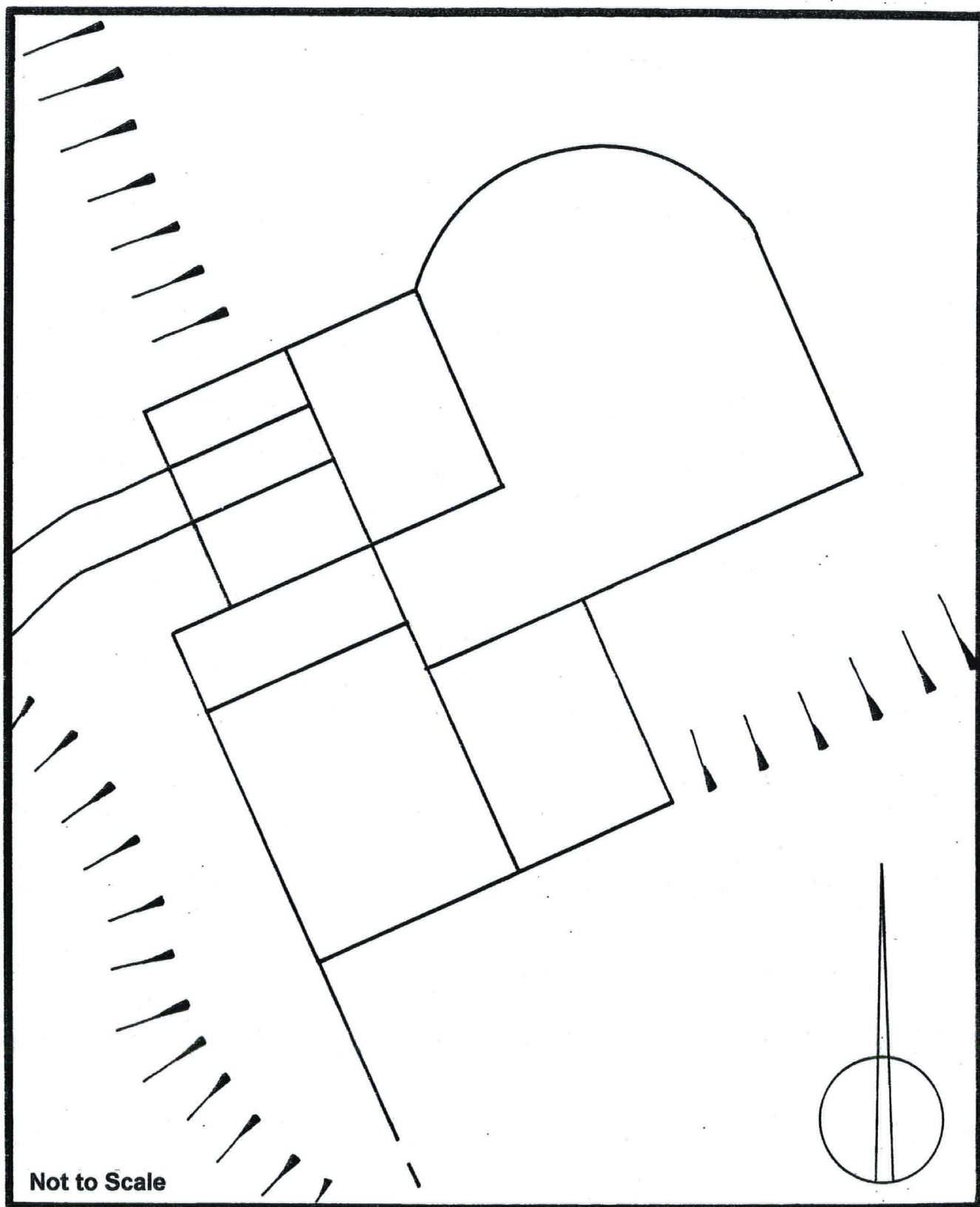
A limekiln structure named 'Old Limekilns'. This structure is located within the central area of the site at N.G.R. 41303 46439. The linework depicting this feature does not differentiate between what is built and what is excavated. The form and configuration of the structure appears to conform to 1895 survey. The structure consists of six adjoining components, all of which are rectangular in planform and vary in size, measuring from 2 x 2.5m to 7 x 8m. To the immediate north east of this complex, and adjoining same, is an L shaped structure with a rounded northern aspect. This component measures 14 x 12m in size.

The kiln is attached to a flue (not named) that extends up to 72m to the south west, centred at N.G.R. 41298 46438. This feature measures approximately 2m in width and, although continuous, consists of three sections of differing alignment west south west, south west and west south west.

The flue extends towards a 'chimney' that is located towards the western extent of the study area at N.G.R. 41295 46434. This square structure measures 4m x 4m and appears as depicted in 1895 with the exception that it is detached from the flue by up to 5m.

The kiln complex is accessed from the north east off the Grassington to Pateley Bridge road via a trackway. This curvilinear thoroughfare is centred at N.G.R. 41307 46441. The track increases in width from 3m at its north eastern extent to 14m towards the south west. The track terminates adjacent to the southern extent of the kiln.

FIGURE 3



TOFT GATE LIMEKILN
BEWERLEY - 6059
NORTH YORKSHIRE
DETAIL OF KILN IN 1909
NOVEMBER 1999

The tracks central and north eastern extent is depicted as unfenced. Hacher marks indicate that its south western extent has been excavated into the surrounding ground levels on its southern aspect and on its opposing aspect it is elevated above the greater part of the kiln complex.

A quarry adjoins the north western corner of the kiln, centred at N.G.R. 41300 46439. The quarry has been slightly enlarged since 1895 with a now sub circular planform with a prominent east and north facing aspect. The structure measures 26 x 23m in size. No obvious point of access into the quarry can be determined.

The study area supports minor quarry workings, centred at N.G.R. 41304 46443. These workings are as surveyed in 1895. These include;

A curvilinear worked face with a south facing aspect and a crescent shaped mound opposing the worked face to the immediate south. The workings measure 40m x 26m and are centred at N.G.R. 41301 46444.

An amorphous shaped scoop worked on all sides but it's point of access is on its southern side. The base of the scoop supports outcropping stone. The working measures 44m x 24m and are centred at N.G.R. 41304 46443.

A crescent shaped scoop fronting the principal access track with a prominent south east facing aspect. The working measures 20m x 15m and is centred at N.G.R. 41306 46444.

A rectilinear scoop situated to the immediate south of the principal track and accessed from same. The working has a north west facing aspect and measures 40m x 14m, centred at N.G.R. 41309 46445.

Two further workings have been surveyed that have not been previously recorded. A crescent shaped working is depicted 28m south of the principal track. The working has a south east facing aspect and measures 11m x 16m, situated at N.G.R. 41308 46441. An oval shaped scoop is situated towards the eastern extent of the site. No access into the scoop can be identified. The scoop measures 10m x 5m and is located at N.G.R. 41307 46446.

The 1909 map identifies an area of 'Old Quarries' within the western extent of the study area. These workings straddle the western boundary extending into the site of the former public quarry. The quarry has a predominant north north east facing aspect. The survey identifies an 'Old Shaft' to the south of the quarry at N.G.R. 41295 46435.

The isolated circular feature to the west south west of the Limekiln complex, previously depicted on the 1895 survey, has been detailed as a pond (not named) with a 13m diameter. The pond is contained to the south and east by a crescent shaped retaining bank.

The thoroughfares that traverse the study area to dwellings to the south of the site are, as surveyed in 1895, named as a footpath to High Fleak Gate.

The 1909 map also depicts (but does not name) those same limekilns as identified on the 1895 Ordnance Survey map at N.G.R. 41325 41362 and at N.G.R. 41326 46423.

Mid 20th Century:

The 1956 Ordnance Survey map is a reproduction of the 1909 survey, with no further details.

Late 20th Century:

The aerial photographic sources of January 1992 clearly depict the site. All elements of the complex are clearly depicted, and are described below. The photographs indicate that the quarry adjacent to the kiln has been partially backfilled with recently tipped material. Furthermore, the principal thoroughfare that affords access from the Grassington to Pateley Bridge road to the kiln, is blocked towards its western extent by large quantities of tipped manure.

SITE DESCRIPTION

The extent of the survey has been defined by that area directly occupied by the extant monument with selective surveying of peripheral earthworks.

The site is located within the high point of the field with the natural ground levels sloping down to the east on a gentle gradient and to the south west on a gentle/moderate gradient. The field falls from 374.90m AOD to 341.38m AOD.

Due to the shelter afforded to livestock by the monument and surrounding earthworks this area of the field is currently used for feeding livestock. Access to this area of the field is facilitated by the network of tracks that form an integral part of the lime kiln operations.

The ease of vehicular access to the site has, over the last 50 years, lead to the removal of stone from the peripheral elements of the monument together with the leading of spoil and overburden onto site for disposal in quarried areas. Consequently the ground levels across the site are not all associated with the working life of the lime kiln complex.

SITE INTERPRETATION

The site supports a complex variety of structures. For the purposes of this report an attempt has been made to simplify the main earthworks, these can be attributed to three principal phases of mining/quarrying, namely;

Phase 1

This can be attributed to late medieval / post medieval limestone extraction and lead mining activity. These earthworks extend across the entire study area and beyond for up to 120 metres to the south east and into the triangular shaped field, N.G.R. 41300 46448 north of the Grassington to Pateley Bridge road. The construction of the Grassington to Pateley Bridge road cut through these early workings.

These workings appear to fall into three main classifications bell pits N.G.R. 41291 46446, shafts N.G.R. 41314 46438, scoops, N.G.R. 41300 46448. Each appear to have minimal spoil associated with the excavations. Representation from each of these structures is widely distributed across the area with no apparent concentration according to class. The most widespread form being the scoop accounting for 80% of the complex. These sub circular structures have an average size of 5m x 8m with shallow rounded profiles. The workings are tightly grouped with an organic rather than a planned appearance.

Thoroughfares within the complex are difficult to identify but it would seem that a small number of minor tracks served the complex rather than individual workings.

It would appear that the north eastern and eastern extent of the complex was contained by a linear boundary, the line of which respects, largely, the line of the existing field boundaries. To the south and west the workings appear gradually to become less intense. This general area marks the transition of the surface geology from Toft Gate Limestone to Sandstone.

It is possible that these early workings can be attributed to the John Wood's 1585 lease to enclose approximately 10 acres of common land near Toft Gate for the purpose of lead mining.

Phase 2

During the early and mid 19th century limestone was quarried from the western extent of the site, N.G.R. 41292 46437. These works resulted in the formation of the distinctive rectilinear quarry face. Access to which was afforded directly off the Grassington to Pateley Bridge road. These excavations appear to have encroached into the area of earlier workings.

The quarry had been largely worked by the mid 19th century. However stone continued to be removed in small piece-meal quantities from the western extent of the quarry well into the 20th century.

By the late 20th century the quarry was being used for the storage of road building materials and fly tipping.

Phase 3

During the mid 19th century (1860's) the Toft Gate Limekiln complex was