



**Historic Building Recording at
Barnsley Gasholder Station
Barnsley
South Yorkshire
September 2014**

Report No 14/185

Authors: Jason Clarke and Amir Bassir

Illustrator: Amir Bassir



Historic building recording at Barnsley Gasholder Station Barnsley, South Yorkshire September 2014

Report No. 14/185

Quality control and sign off:

Issue No.	Date approved:	Checked by:	Verified by:	Approved by:	Reason for Issue:
2	30.09.14	Pat Chapman	Amir Bassir	Andy Chapman	Final Report

Authors: Jason Clarke and Amir Bassir

Illustrator: Amir Bassir

© MOLA Northampton 2014

MOLA
Bolton House
Wootton Hall Park
Northampton
NN4 8BN
01604 700 493
www.mola.org.uk
sparry@mola.org.uk

STAFF

Project Manager: Amir Bassir BSc

Text: Jason Clarke BSc MA AlfA

Amir Bassir

Fieldwork: Jason Clarke

Illustrations Amir Bassir BSc

OASIS REPORT FORM

PROJECT DETAILS		Oasis No: molanort1-191282	
Project title	Historic Building Recording at Barnsley Gasholder Station		
Short description	MOLA carried out a programme of historic building on Gasholder No 4 at the Barnsley Gasholder Station, Barnsley, South Yorkshire. This work comprised a photographic survey supported by documentary research. The larger gasworks was first developed by the Barnsley Gas Light Company in 1867 with two gasholders and associated structures to the north of the surveyed area. Gasholder 4 is first visible on the 1960 Ordnance Survey map which indicates that it was constructed between 1931 and 1960. The two older gasholders were made redundant and replaced by Gasholder 4 in the mid-20th century. At the time of this survey, Gasholder 4 was not in use and scheduled for demolition to allow for redevelopment of the area.		
Project type	Historic Building Recording		
Previous work	Watching Brief, DBA		
Current land use	Gasworks, disused		
Future work	Unknown		
Monument type and period	Mid 20th-century gasholder		
Significant finds	None		
PROJECT LOCATION			
County	South Yorkshire		
Site address	Barnsley Gasholder Station, Old Mill Lane, Barnsley, S71 1DL		
Easting Northing	SE 35165 07194		
Area (sq m/ha)	0.58 ha		
Height aOD	45m aOD		
PROJECT CREATORS			
Organisation	MOLA Northampton		
Project brief originator	Montagu Evans on behalf of National Grid		
Project Design originator	MOLA Northampton		
Director/Supervisor	Jason Clarke (MOLA)		
Project Manager	Amir Bassir		
Sponsor or funding body	Montagu Evans on behalf of National Grid		
PROJECT DATE			
Start date	July 2014		
End date	October 2014		
ARCHIVES	Location (Accession no.)	Contents	
Physical			
Paper		Site records (1 archive box)	
Digital		Client report PDF. Photographs	
BIBLIOGRAPHY			
Title	Historic Building Recording at Barnsley Gasholder Station, Barnsley, South Yorkshire, July 2014		
Serial title & volume	14/185		
Author(s)	Jason Clarke, Amir Bassir		
Page numbers	22		
Date	October 2014		

Contents

1	INTRODUCTION	1
2	OBJECTIVES AND METHODOLOGY	1
3	HISTORIC BACKGROUND	3
	3.1 Cartographic evidence	3
	3.2 Archival evidence	7
4	HISTORIC BUILDING RECORDING, GASHOLDER NO.4	100
5	DISCUSSION	222
	BIBLIOGRAPHY	

Figures

Front cover: Gasholder No.4, looking north-west

Fig 1: Site location

Fig 2: Aerial view of the site (© Google)

Fig 3: Town plan of 1852, showing the site prior to development

Fig 4: Ordnance Survey map of 1892, showing the gasworks north of river

Fig 5: Ordnance Survey map of 1906, showing rail lines crossing the survey area

Fig 6: Ordnance Survey map of 1931, showing the expansion of the gasworks and rail lines

Fig 7: Ordnance Survey map of 1969, showing Gasholder 4. Gasholder No 1 and other associated structures have been demolished by this date

Fig 8: Ordnance Survey map of 1982. Gasholder No 2 and the majority of the gasworks north of the river have been demolished and the land to the south of the gasholder has been fully developed

Fig 9: Construction of foundations for Gasholder 4

Fig 10: Gasholder 4 under construction, looking towards Gasholder 2

Fig 11: Gasholder 4 under construction

Fig 12: Gasholder 4, fully raised with allotments in the foreground

Fig 13: Plan of the gasworks, dated 1966. This plan refers to Gasholder 4 as Gasholder 3

Fig 14: The south elevation

Fig 15: Lagged pipework

Fig 16: External staircase (safety door open)

- Fig 17: Upper section of external staircase
- Fig 18: Gasholder ID board showing pressure limits
- Fig 19: View of the static base tank, showing safety railings of the four upper lift tanks
- Fig 20: The western pair of staircases for the upper lift tanks
- Fig 21: Detail of embossed metal step from the western staircase
- Fig 22: The eastern pair of staircases for the upper lift tanks
- Fig 23: Gear mechanism for the lifting and lowering of the lift tanks
- Fig 24: General view from the walkway of the static base
- Fig 25: Inlet/outlet pipework on the west of the gasholder
- Fig 26: Pipework with flow valves
- Fig 27: Detail of the flow valves
- Fig 28: Inlet/outlet pipework and gantry leading over the River Dearne
- Fig 29: View of external pipework of the western side of the gasholder
- Fig 30: Concrete plinth
- Fig 31: Manhole covers and separator alarm system
- Fig 32: Kiosk structure 1
- Fig 33: Kiosk structure 2
- Fig 34: Plan of the gasholder, showing photograph locations

Back Cover: Photograph of retort house workers (1940's)

**HISTORIC BUILDING RECORDING AT
BARNSELY GASHOLDER NO 4
BARNSELY, SOUTH YORKSHIRE
JULY 2014**

Abstract

MOLA carried out a programme of historic building on Gasholder No 4 at the Barnsley Gasholder Station, Barnsley, South Yorkshire. This work comprised a photographic survey supported by documentary research. The larger gasworks was first developed by the Barnsley Gas Light Company in 1867 with two gasholders and associated structures to the north of the surveyed area. Gasholder 4 is first visible on the 1960 Ordnance Survey map which indicates that it was constructed between 1931 and 1960. The two older gasholders were made redundant and replaced by Gasholder 4 in the mid-20th century. At the time of this survey, Gasholder 4 was not in use and scheduled for demolition to allow for redevelopment of the area.

1 INTRODUCTION

In July 2014, a Level 2 Historic Building recording was carried out by MOLA at Barnsley Gasholder station, Barnsley, South Yorkshire (NGR: SE 35165 07194 Figs 1 & 2). The work was commissioned by Montagu Evans on behalf of the National Grid, and was undertaken as a voluntary exercise as a commitment by National Grid to deal with the heritage of their estate appropriately.

The scope of works was outlined and detailed in the Written Scheme of Investigation prepared by MOLA (MOLA 2014a) and was approved by Montagu Evans.

Barnsley Gasholder Station is located north of Barnsley town centre, on land owned by National Grid. It is bound to the north by the River Dearne and to the east by Old Mill Lane and Harborough Hill Road. The site is accessed via Twibell Street to the south. The area in which the gasholder is situated comprises mainly large retail units, warehouses and car parks. Residential properties are present to the south of the site along Twibell Street. The Gasholder was disused at the time of this survey and is scheduled for demolition to allow re-development of the area.

2 OBJECTIVES AND METHODOLOGY

The level of recording was specified as Level 2 – a descriptive and analytical record (EH 2006, 14).

This is defined by English Heritage as consisting of:

- A written account of the building's origins, development and use;
- An account of the evidence on which the analysis is based;
- A drawn and photographic record to illustrate the building's appearance and structure.

A site visit was made in July 2014, when the principal elevations, pipework and exterior structures were photographed. Access was gained to the top of the structure and the machinery, access ladders and the walkway were also photographically recorded.

BARNSELY GASHOLDER STATION



Site location Fig 1



Aerial view of the site (© Google) Fig 2

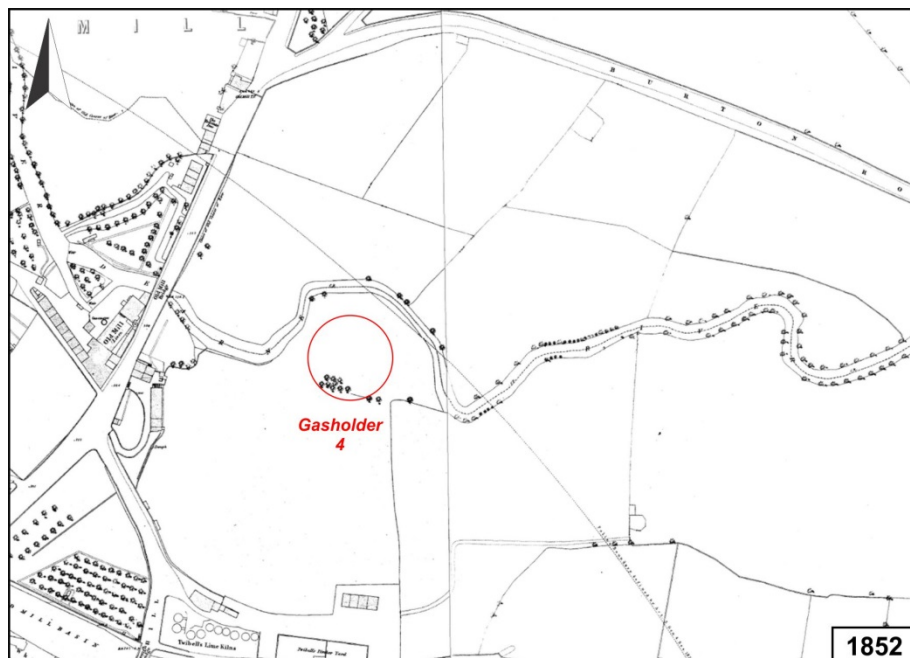
3 HISTORIC BACKGROUND

3.1 Cartographic evidence

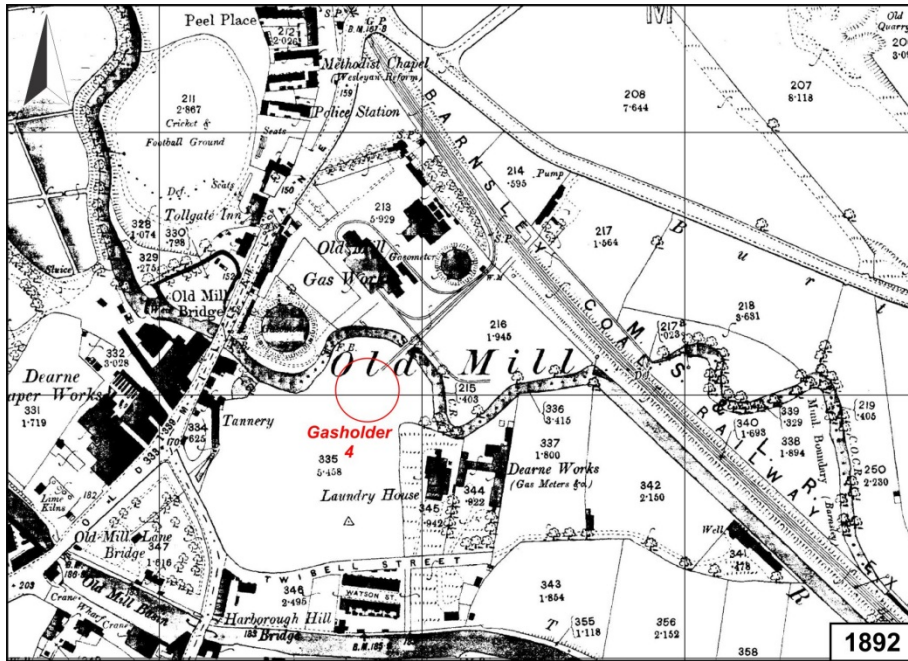
The Barnsley Gas Light Company purchased the Old Mill Lane site in 1867, although the earliest evidence for use of the site for gas manufacture and storage is an Ordnance Survey map dated 1892 (Fig 4). Prior to this, the site was undeveloped fields (Fig 3). The map of 1892 shows the Gasworks to have been developed between the north bank of the River Dearne and the “*Barnsley Coal Railway Extension*” immediately north of the site. The Gasworks at this date comprised two circular gasholders of differing sizes with associated structures of the gasworks between. Several rail tracks split off from the main line and cross the gasworks site. A bridge, which survived *in-situ* at the time of this survey, carried the tracks across the river. To the south of the river the land was largely undeveloped except for a tannery located adjacent to the river. Of interest is a “*Dearne Works (Gas Meters)*” which occupies a building south of the river with access to Twibell Street.

By the time of the Ordnance Survey map of 1931 (Fig 6), several small structures and tanks have been built, scattered within the Gasworks site. The rail tracks are clearly shown crossing the site of Gasholder No.4. The “*Dearne Works*” is no longer listed, having been replaced instead by the label “*Sawmills*”. The land north of Twibell Road had been subdivided into allotments.

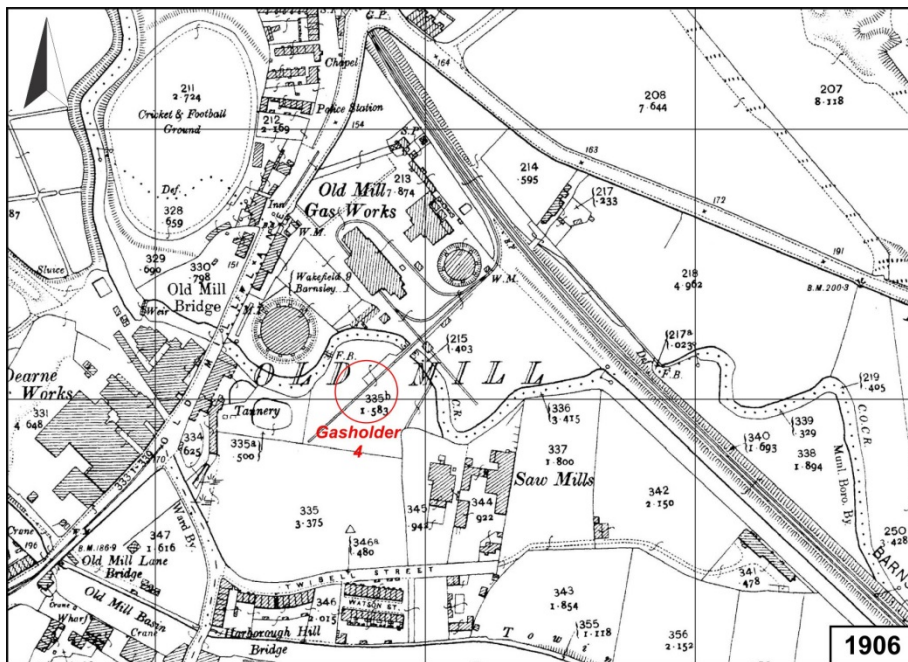
The date on which gas production ceased at the Old Mill Lane Gasworks is thought to be during the early 1960s. With the replacement of coal gas with natural gas, it was common for Gasholders to be the only component of a gasworks to be retained for use. By the 1982 Ordnance Survey map (Fig 8), all but gasholder 4 of the gasworks had been demolished, and the site to the north of the river was occupied by a depot. At the time of this survey, the gasholder was currently located within a partially disused modern retail park.



Town plan of 1852, showing the site prior to development Fig 3

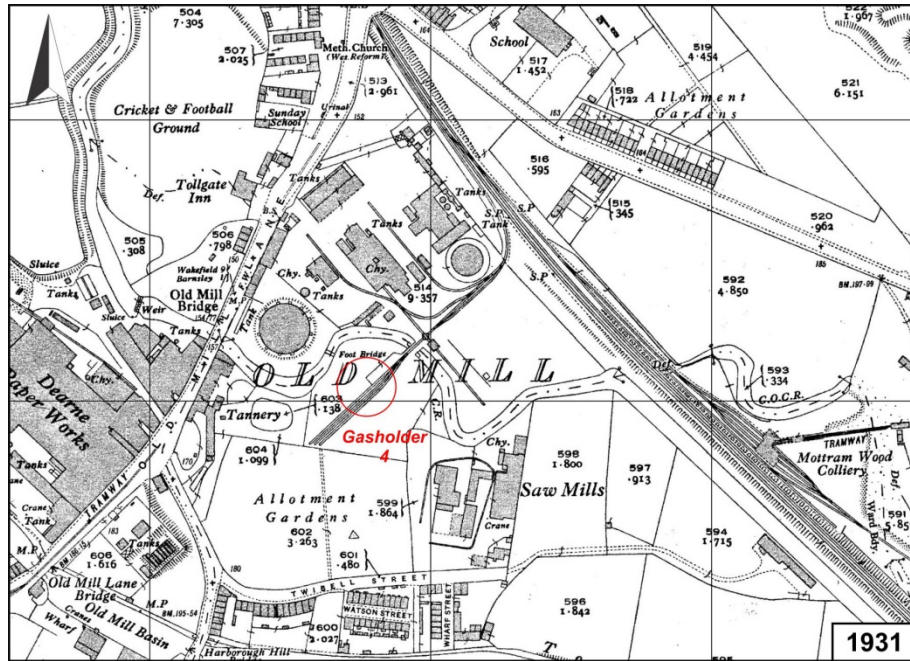


Ordnance Survey map of 1892, showing the gasworks north of the river Fig 4

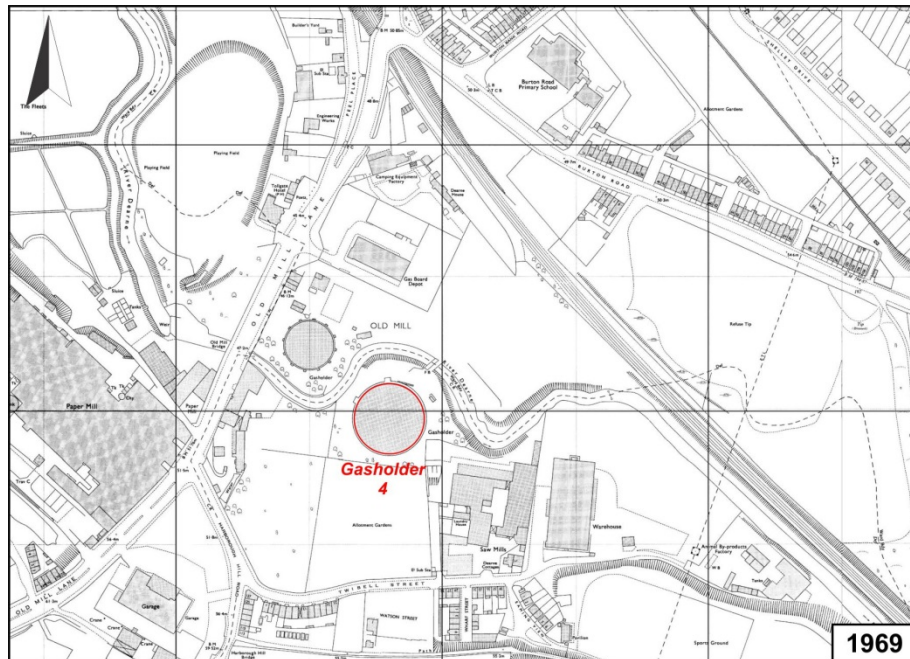


Ordnance Survey map of 1906, showing rail lines crossing the survey area Fig 5

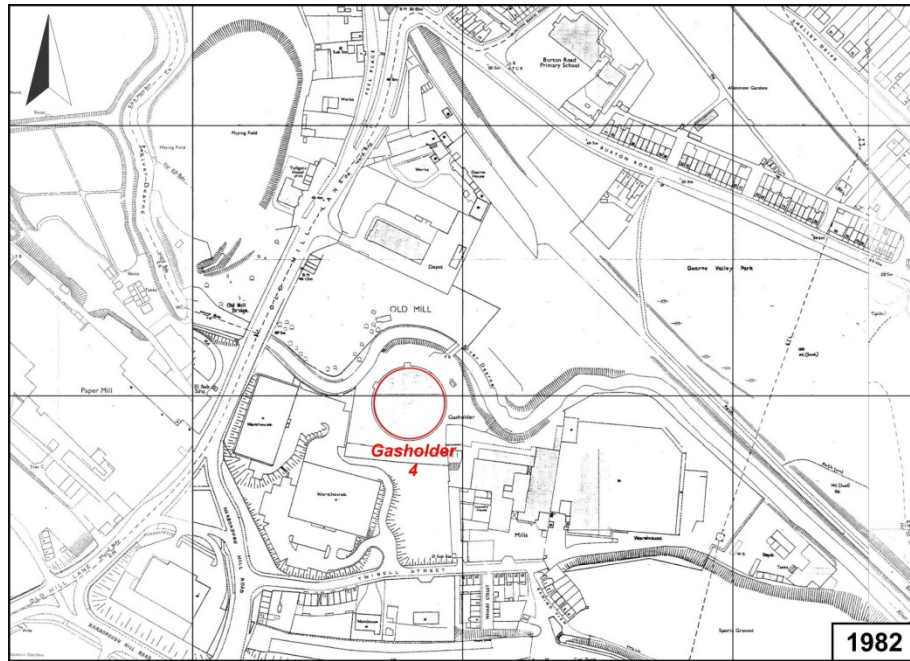
BARNSELY GASHOLDER STATION



Ordnance Survey map of 1931, showing the expansion of the gasworks and rail lines
Fig 6



Ordnance Survey map of 1969, showing Gasholder 4. Gasholder No. 1 and other associated structures have been demolished by this date Fig 7



Ordnance Survey map of 1982. Gasholder No 2 and the majority of the gasworks north of the river have been demolished and the land to the south of the gasholder has been fully developed Fig 8

3.2 Archival evidence

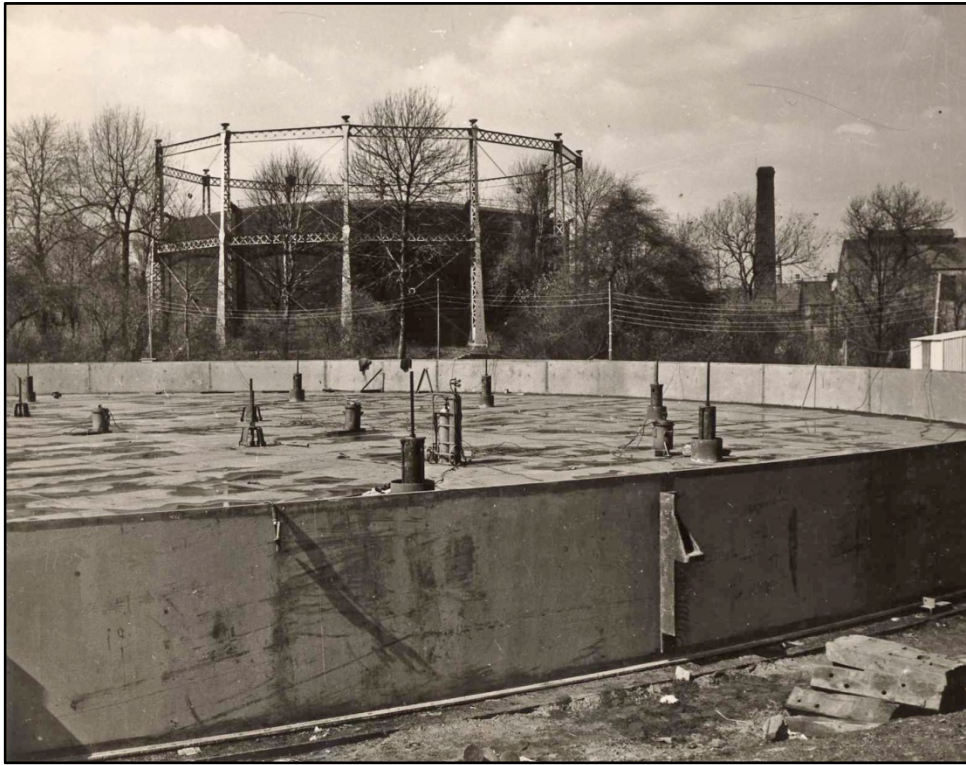
A number of archives were consulted to obtain any archive and documentary evidence relating to the gasworks. These included

- *Britain from Above*
- *The Aerofilm Collection*
- *National Grid Archive*
- *National Monuments Record*
- *English Heritage Archive*
- *Barnsley Archives and Local Studies*

A number of historic photographs and plans were sourced from the National Grid Archive, some of which are reproduced below. The photographs are particularly useful as they depict the gasworks in various stages of construction.



Construction of foundations for Gasholder 4 (c.1950) Fig 9



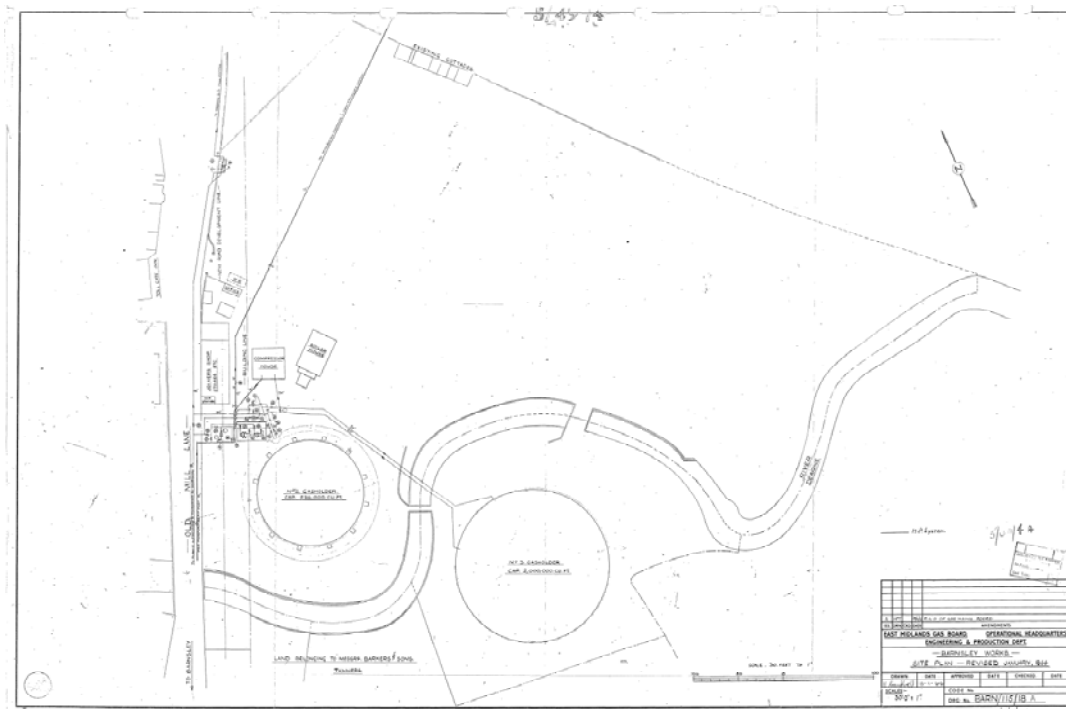
Gasholder 4 under construction, looking towards Gasholder 2 (c.1950) Fig 10



Gasholder 4 under construction (c.1950) Fig 11



Gasholder 4, fully raised with allotments in the foreground (c.1960) Fig 12



Plan of the gasworks, dated 1966. This plan refers to Gasholder 4 as Gasholder 3 Fig 13

4 HISTORIC BUILDING RECORDING, GASHOLDER NO.4

The gasholder is of a spiral guided, above ground construction, 45m in diameter with a maximum storage capacity of approximately 2 million cubic feet. It has a welded and riveted, panelled fabricated steel tank with steel uprights supports (Figs 11 & 14). Spiral guided gasholders were first constructed in 1888 and operate based on spiral guided rails which engage with roller carriages that guide the vertical movement of the tanks. It is set onto a concrete base with an outer concrete retaining wall (Figs 9 & 10). Remnant external steel pipework was present on the outer surface of the gasholder, although most had been removed by the time of the survey.

An external steel staircase with a locked safety door and a fabricated handrail was located on the north of the structure, giving access to a walkway (Figs 16-21). Emergency access could also be gained to the first walkway by a ladder in the form of foot and hand rails welded to the external southern elevation.

The gasholder was a telescoping type which had the capacity of four multiple lift tanks which adjusted with the volume and demand of gas stored within the holder. Water seals were fitted between the telescoping sections to prevent gas from blowing out of the seals. The raised tanks were accessed by a staircase that led to a walkway with a handrail that raised or lowered with the tank (Figs 22 & 23).

At the time of recording the gasholder had been decommissioned with only the static base tank visible. Access was given to its upper walkway. The gasholder was in a well maintained condition with some areas of rust staining and flaking. The tank had been painted a light grey colour with handrails painted in a high visibility yellow.

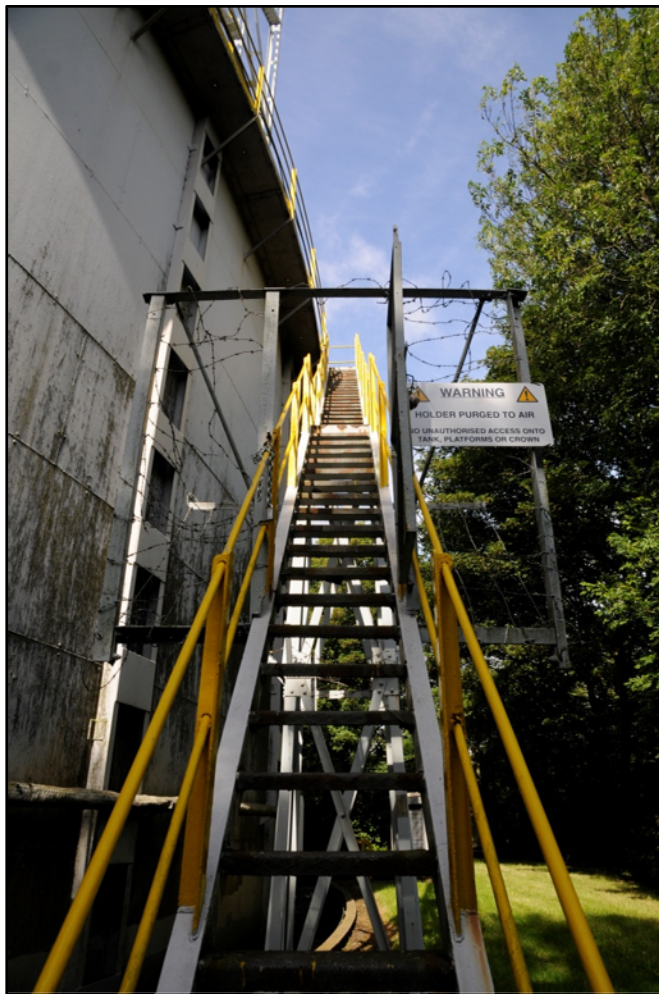
All photographs were taken during a single visit to site in July 2014.



The south elevation Fig 14



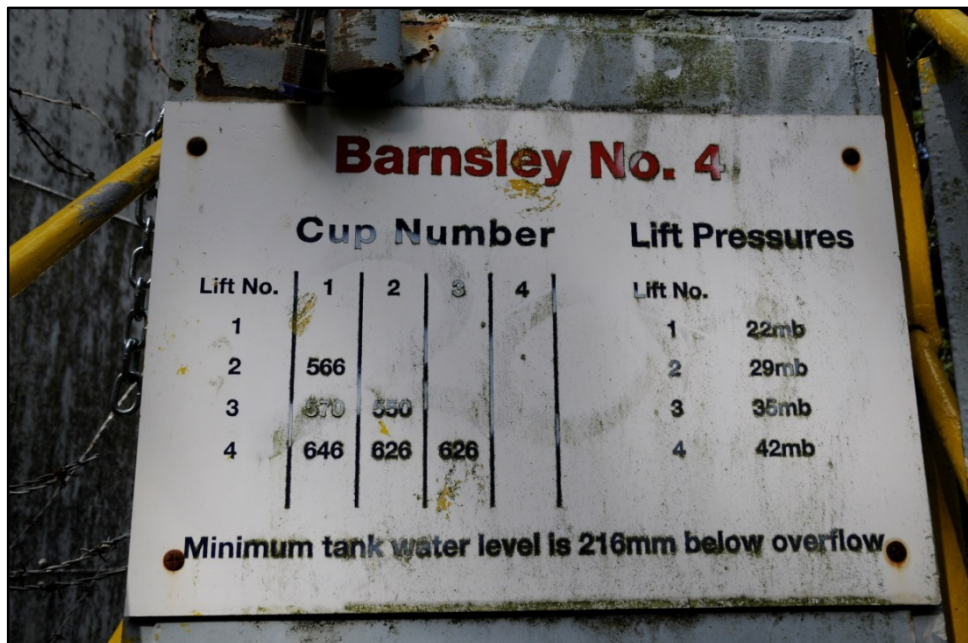
Lagged pipework Fig 15



External staircase (safety door open) Fig 16



Upper section of external staircase Fig 17



Gasholder ID board showing pressure limits Fig 18



View of the static base tank, showing the safety railings of the four upper lift tanks
Fig 19



The western pair of staircases for the upper lift tanks Fig 20



Detail of embossed metal step from the western staircase Fig 21



The eastern pair of staircases for the upper lift tanks Fig 22



Gear mechanism for the lifting and lowering of the lift tanks Fig 23



General view from the walkway of the static base Fig 24

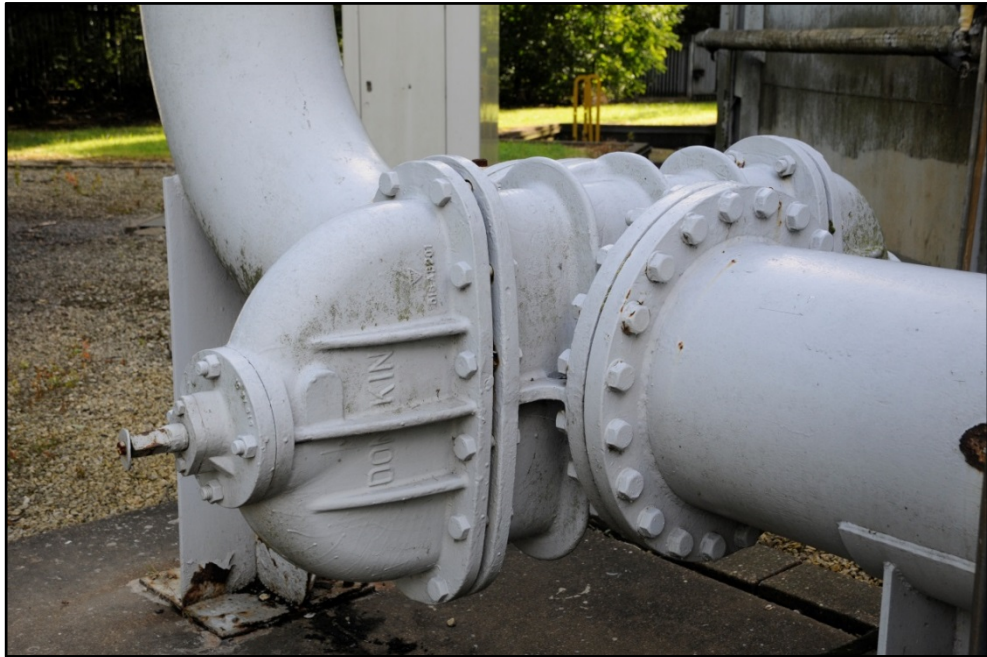
Photographs of the external pipework



Inlet/outlet pipework on the west of the gasholder Fig 25



Pipework with flow valves Fig 26



Detail of the flow valves Fig 27



Inlet/outlet pipework and gantry leading over the River Dearne Fig 28



View of external pipework of the western side of the gasholder Fig 29

Photographs of the external structures



Concrete plinth Fig 30



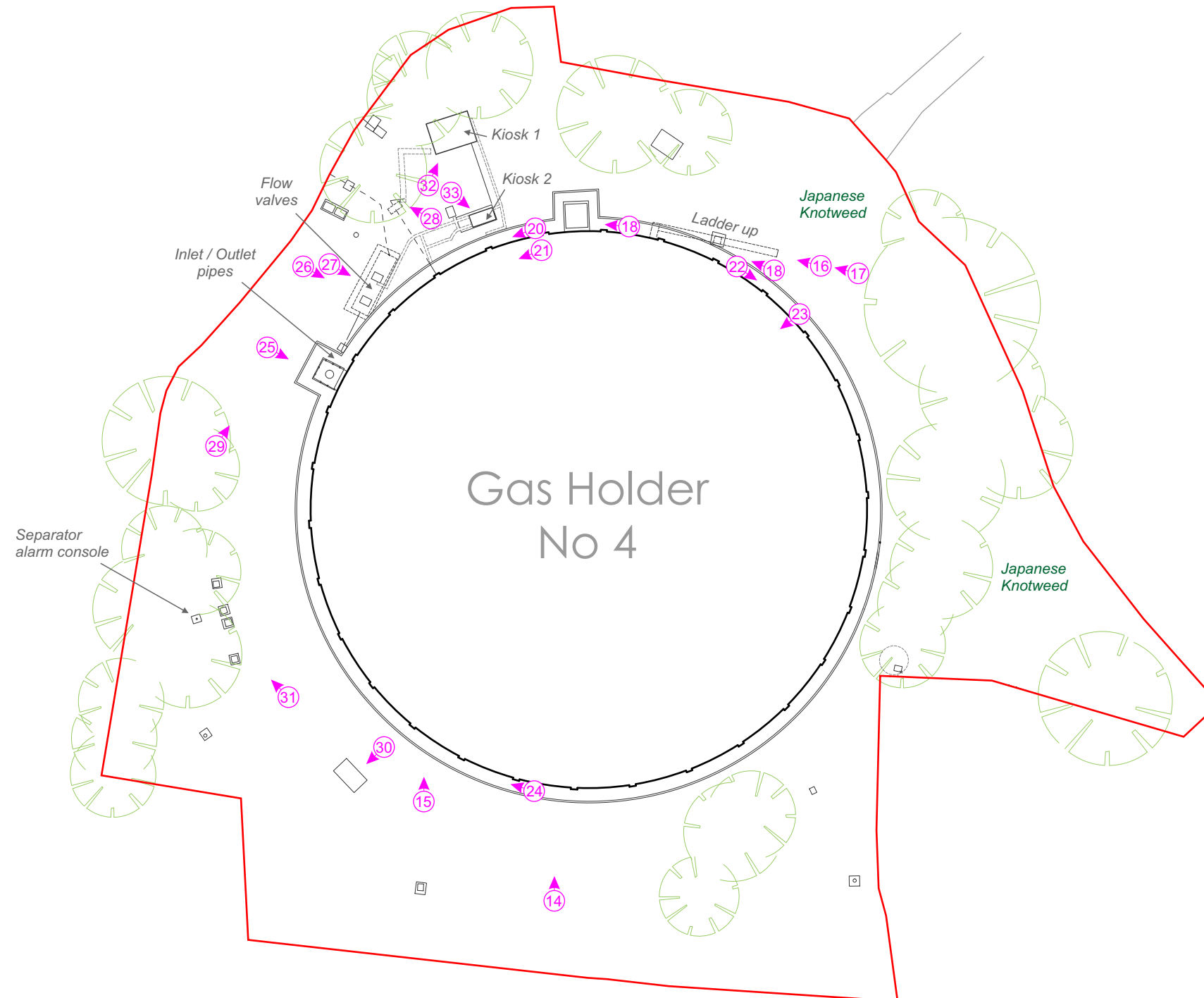
Manhole covers and separator alarm system Fig 31



Kiosk structure 1 Fig 32



Kiosk structure 2 Fig 33



5 DISCUSSION

The surveyed gasholder at Barnsley dated from the mid-20th century and was typical of gasholders constructed during this period. It had the capacity to hold 2 million cubic feet of gas, doubling the capacity of Gasholder 2. The external kiosk buildings and separator alarm console are later additions and probably date to the late 20th to early 21st centuries.

Archive material showing the plans of the gasworks (Fig 13) refers to the surveyed gasholder as 'Gasholder number 3' although the current identification plate of the gasholder identifies it as Gasholder 4 and it is not known when the name changed and the reasons for doing so.

Gasholder 4 is the final above ground structure of the Barnsley gasworks currently remaining, although it is scheduled for imminent demolition. It was part of the legacy of nationwide gas storage and distribution situated within towns and cities to meet the demands of increasing populations during the late 19th and 20th centuries.

BIBLIOGRAPHY

- EH 2006 *Understanding Historic Buildings. A Guide to Good Practice*, English Heritage
- IfA revised 2008 *Standard and Guidance for the archaeological investigation and recording of standing buildings or structures*. Institute for Archaeologists
- IfA 2014 *Code of Conduct*, Institute for Archaeologists
- MOLA 2014a *Written scheme of investigation for Level 2 Historic Building Recording at Barnsley Gasholder station*, MOLA Northampton
- MOLA 2014b *Archaeological Fieldwork Manual*, MOLA Northampton
- Montagu Evans 2014 *Barnsley Gasholder Station, Old Mill Lane / Twibell Street, S71 1DL, Historic Building Recording Brief*
- Evans, D, 2012 *Gasworks Buildings, Their types and measures of significance in the built environment* Montagu Evans

MOLA Northampton
October 2014



MOLA
Bolton House
Wootton Hall Park
Northampton
NN4 8BN
01604 700 493
www.mola.org.uk
sparry@mola.org.uk