



**Historic Building Recording of Gasholders
at the Ribbleton Lane Gasholder Station
Preston, Lancashire
September 2018**

Report No. 18/115

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Project Manager: Anthony Maull
NGR: SD 5515 2998
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OASIS REPORT FORM

PROJECT DETAILS		OASIS molanort1-328995
Project title	Historic Building Recording of Gasholders at the Ribbleton Lane Gasholder Station, Preston, Lancashire, September 2018	
Short description	MOLA (Museum of London Archaeology) carried out a programme of historic building recording of Gasholders 1 and 2 at the Ribbleton Lane Gasholder Station, Preston, Lancashire. Gasholder 1 was a spiral-guided gasholder built in 1955, replacing a column-guided gasholder of 1869 and utilising the below-ground tank of the earlier holder. Gasholder 2 was a giant single-order, single-tier column-guided gasholder built in 1885 by Thomas Piggot & Co. of Birmingham. Basic recording was undertaken of Gasholder 1, whilst Gasholder 2, having a greater architectural and historic value, was subject to an enhance level of recording.	
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Previous work	Unknown	
Future work	Unknown	
Monument type and period	Gasholders of 1885 and 1955	
PROJECT LOCATION		
County	Lancashire	
Site address	Ribbleton Lane, Preston	
NGR	SD 5515 2998	
Area	c0.95 hectares	
PROJECT CREATORS		
Organisation	MOLA Northampton	
Project brief originator	Atkins Ltd on behalf of National Grid	
Project Design originator	MOLA Northampton	
Supervisor	Amir Bassir	
Project Manager / Director	Anthony Maull	
Sponsor or funding body	Atkins Ltd on behalf of National Grid	
PROJECT DATE		
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Historic Building Recording of Gasholders at the Ribbleton Lane Gasholder Station Preston, Lancashire September 2018

Abstract

MOLA (Museum of London Archaeology) carried out a programme of historic building recording of Gasholders 1 and 2 at the Ribbleton Lane Gasholder Station, Preston, Lancashire. Gasholder 1 was a spiral-guided gasholder built in 1955, replacing a column-guided gasholder of 1869 and utilising the below-ground tank of the earlier holder. Gasholder 2 was a giant single-order, single-tier column-guided gasholder built in 1885 by Thomas Piggot & Co. of Birmingham. Basic recording was undertaken of Gasholder 1, whilst Gasholder 2, having a greater architectural and historic value, was subject to an enhance level of recording.

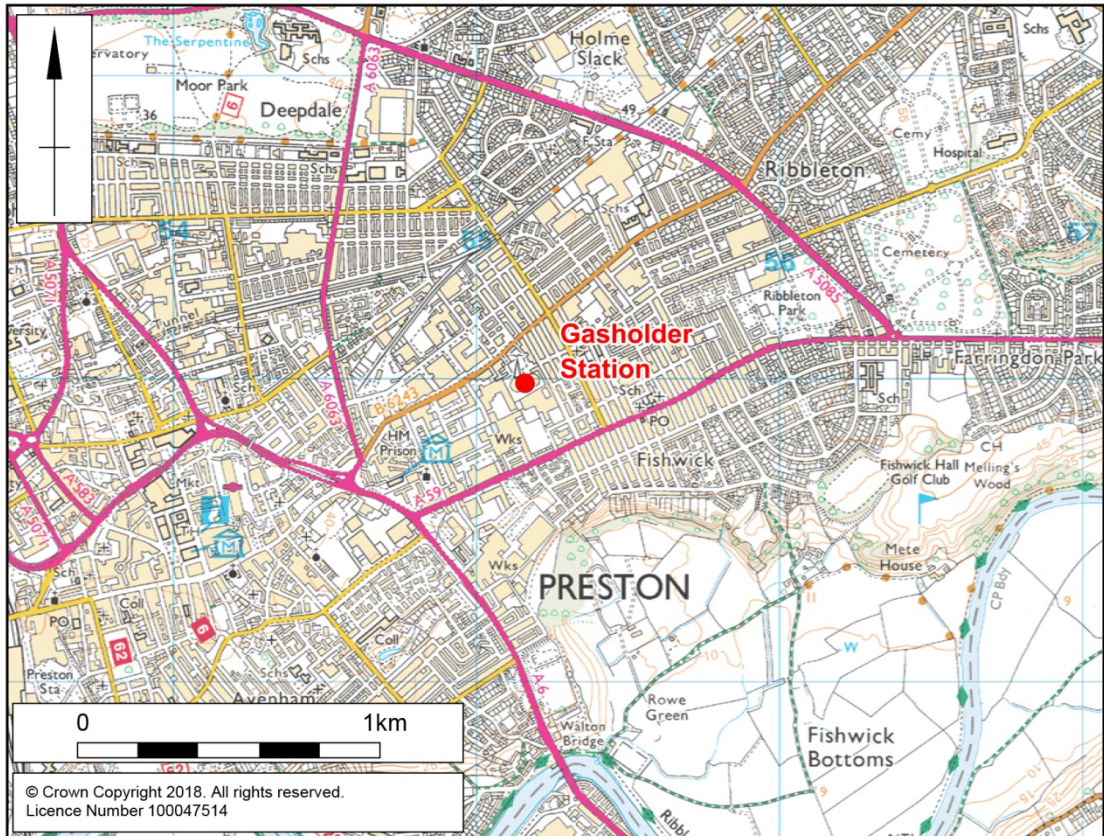
1 INTRODUCTION

MOLA (Museum of London Archaeology) was commissioned by Atkins Ltd, acting on behalf of National Grid, to undertake a programme of historic building recording of two Gasholders at the Ribbleton Lane Gasholder Station, Preston, Lancashire (NGR SD 5515 2998, Figs 1 and 2).

This survey is a voluntary exercise commissioned by National Grid as part of their commitment to the heritage of their broader estate. This report is in accordance with current best archaeological practice as defined in the Chartered Institute for Archaeologists' *Standard and Guidance for the Archaeological Investigation and Recording of Standing Buildings or Structures* (CIfA 2015). This report follows an approved Written Scheme of Investigation which set out the proposed aims and recording methodology (MOLA 2018). The site was assessed as part of the Gas Industry Step 3 Report and was rated as a "Site of national importance, but of lesser priority for resource allocation". Gasholder 2 was described as a "late example of giant single-order single-tier column-guided holder, one of two surviving type 11 holders (other examples at Battersea)" (Trueman 2002). By the time of this survey the other example at Prince of Wales Drive, Battersea, had been demolished.

An assessment of the significance of the site determined that the site did not include any designated heritage assets and concluded that although Gasholder 2 does not possess technical innovation, it has some architectural and historical value owing to its age (Montagu Evans, Undated). Gasholder 1 was assessed as being a relatively late example of its type with limited architectural value. The heritage review recommended basic and enhanced Level 2 recording should be undertaken for Gasholders 1 and 2 respectively and that high quality architectural photography also be used to record Gasholder 2.

RIBBLETON LANE, PRESTON



Site location Fig 1



The recording area (image © Google Earth) Fig 2

2 OBJECTIVES AND METHODOLOGY

The objectives of this survey were to:

- Produce an illustrated, written document detailing the fabric, appearance and form of the gasholders and associated infrastructure;
- Provide historical survey drawings (or sketches) for comparable investigation relating to building form and function, identification of fixtures and fittings where visible or accessible;
- Provide an account of historic fixtures, fittings and architectural features where visible or accessible;
- Provide a photographic record of the structures in context.

The level of recording was specified as basic and enhanced Level 2 in accordance with the Historic England document *Understanding Historic Buildings, A Guide to Good Practice* (HE 2016), and as specified in the site specific *Heritage Review* (Montagu Evans, undated) which concluded that the gasholders were of minimal heritage significance.

Recording was carried out on the 13th September 2018 and encompassed the two gasholders and related pipework. The exterior of a Workshop and Governor House was photographically recorded but the interiors were not accessed.

The site was photographically recorded to include general views of the gasholders and their setting, as well as detailed views of any structural, historic or architectural features. The area around the gasholders had become overgrown and contained numerous debris including broken glass and drugs paraphernalia and recording was limited to the clearest areas.

Photography was carried out using a Nikon D7200 DSLR equipped with Sigma 10-20mm and Nikon 18-105mm lenses. Supplementary photography was undertaken using a Panasonic Lumix FZ1000. Photographic scales were included in views where practical. This project has produced an archive of approximately 140 digital images of which a selection is used to illustrate this report.

Measured sketches were carried out of an example roller carriage and a column base; due to the profusion of oil around the entire perimeter of Gasholder 2 it was not possible to produce a measured drawing of the rollers.

A visit was made to the Lancashire Archives in order to view historic mapping, documents, photographs and books relating to the site and gas-making in Preston and Lancashire generally. Relevant archival material held at the National Gas Archives at Warrington was provided by Atkins.

The National Gas Archive reference for this project is 0050.

3 SITE LOCATION AND TOPOGRAPHY

The gasholder station is located to the east of Preston City Centre, close to the junction of Ribbleton Lane and Geoffrey Street. The recording area comprised an irregularly shaped area, now largely derelict, which contains two gasholders, Gasholder 1 and Gasholder 2, as well as two buildings (Workshop and Governor House) and defunct gas infrastructure. The site is bound to the east by Geoffrey Street from which it is separated by a brick wall which is continued fully around the perimeter of the recording area. Immediately to the south and to the west of the site are factory units belonging to the furniture maker Tetrad PLC. To the north of the site is an area of derelict scrubland which is continued to the southern edge of Ribbleton Lane. The area to the west of Geoffrey Street comprises mid to late 19th-century terraced housing whilst to the south and west of the site, and to the north of Ribbleton Lane, are a mix of industrial and retail units and modern housing. HMP Preston is located c400m to the west of the site. The River Ribble flows between 1.2-2km to the south of the site.

The site lies at approximately 45m aOD and is generally flat, though with steep banks at the eastern edge of the site. The underlying geology has been mapped as comprising Triassic and Permian sandstone of the Sherwood Sandstone Group and this underlies much of the town of Preston and the areas to the north and west (BGS 2018). Overlying the bedrock are superficial glaciofluvial sand, gravel, and till deposits of the Devensian period.

4 HISTORICAL BACKGROUND

The gasholder station is located on the site of former brickfields which are depicted on the Ordnance Survey Town Plan of 1849 (*not reproduced*). In the mid 19th century the eastern boundary of Preston was effectively defined by London Road, Stanley Street and Park Road, though some eastward development can be noted in association with a number of Cotton Mills at the north-east side of the town. The Preston, Fleetwood and West Riding Railway which was set up in c1846 passed to the north of the cotton mills and a number of sidings branched off from the main line to serve the surrounding industries. Ribbleton Lane comprised one of the main eastward throughfares and extended to the north-east towards Longridge. The brickfields were set back from the road and a number of buildings and a bowling green were located alongside the road. Surrounding the brick fields were enclosed agricultural fields which occupied the land up to New Hall Lane to the south. A short distance to the west of the site was the Ribbleton Lane Mill and Weavers' Shop, both cotton mills, and a Courthouse / House of Corrections occupied the site of the current prison.

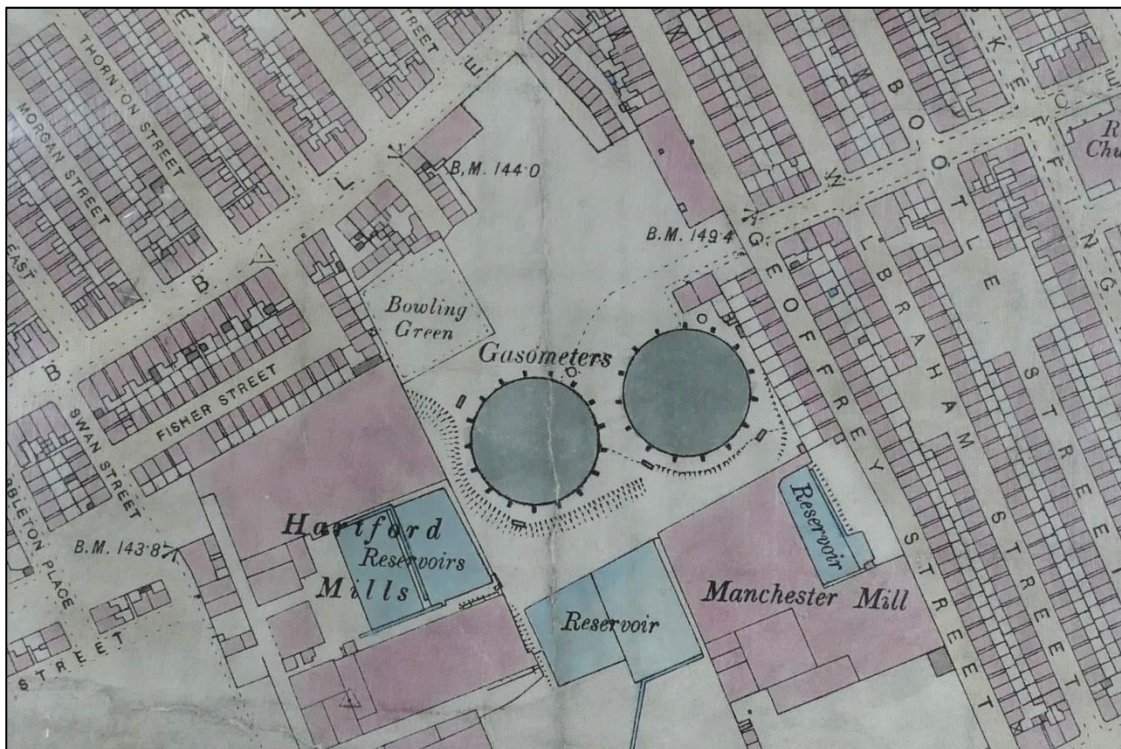
The eastward development of Preston had progressed sufficiently so that by the 1890s the site was surrounded by residential properties though it remained close to the eastern periphery of the town. The gasholder station at Ribbleton Lane is first depicted on the Ordnance Survey Town Plan of 1893 at which time it comprised two equal-sized column-guided gasholders, each with a well close to the north-east side of the tank, and with several buildings located close to the north-east side of Gasholder 1, these likely comprising the Governor House / Valve House etc (Fig 3). The Bowling Green seen on the earlier map remained in existence but several of the houses alongside Ribbleton Lane had been cleared. Immediately to the south and west of the site were new reservoirs and these were associated with the newly built Hertford, Manchester, and India cotton mills and the Alliance Works, also a cotton mill. The site contained no gas production facilities, instead acting as a distribution centre.

The Preston Gas Light Company was formed in 1815 and, employing the services of the engineer John Grafton, set up a gasworks at Avenham Lane which had a successful trial in February 1816 (Wilson 1991). The Company was incorporated as The Preston Gas Company in 1839 and set about meeting the increased demand for gas by setting up production stations in Moor Lane and Walker Street, and three storage and distribution stations in Glover Street, Ribbleton Lane and Walton (G11/PST/5478). A new works was subsequently erected at Lostock Hall in 1925 and became functional in 1931, at which time the existing production stations in the centre of the town were closed down and dismantled and the sites redeveloped. Following Nationalisation the Preston Gas Company was passed onto the North Western Gas Board which was established in 1949.

The area around the Ribble Lane station continued to be developed and expanded but little of direct relevance to the site can be noted until the 1950s when Gasholder 1 was rebuilt as a spiral-guided gasholder. A new workshop was built at this time and remained extant at the time of this survey. Between 1939 and 1946 the demand for gas had increased significantly and in 1944 the Company obtained authority to install

additional carbonising plant and Carburetted Water Gas Plants, increasing the Work's capacity to 9¼ million cu ft per day (G11/PST/5478). This increase required the upgrading of the existing gasholders or construction of new ones. The spiral-guided design was the preferred option, as also demonstrated at Lostock Hall where the spiral-guided gasholder of 1928 was joined by a new spiral-guided gasholder in 1952 (Bassir and Clarke 2014).

The discovery of North Sea gas in the early 1960s triggered a rapid switch to natural gas and a nationwide investment in new distribution plant and appliances which was declared complete by September 1977. The conversion programme was accompanied by the development of a national transmission system of high pressure pipelines, compressor stations and terminals in order to store and distribute the gas. This effectively rendered the former gas manufacturing plant redundant, with the exception of the gasholders and governors. Both of the gasholders at Ribbleton Lane were converted to store and distribute natural gas. Modern innovations in gas storage and distribution have rendered the UK's stock of gasholders obsolete, prompting a large scale programme of demolition accompanied by archaeological recording.

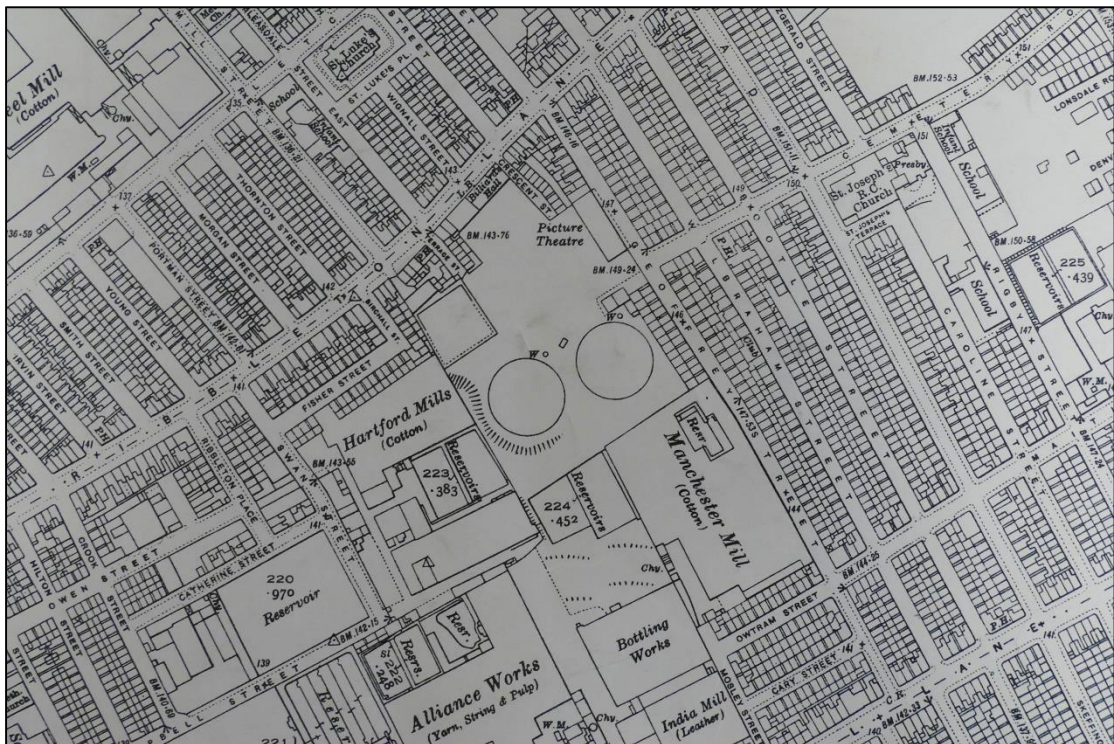


Ordnance Survey map of 1893 Fig 3

RIBBLETON LANE, PRESTON

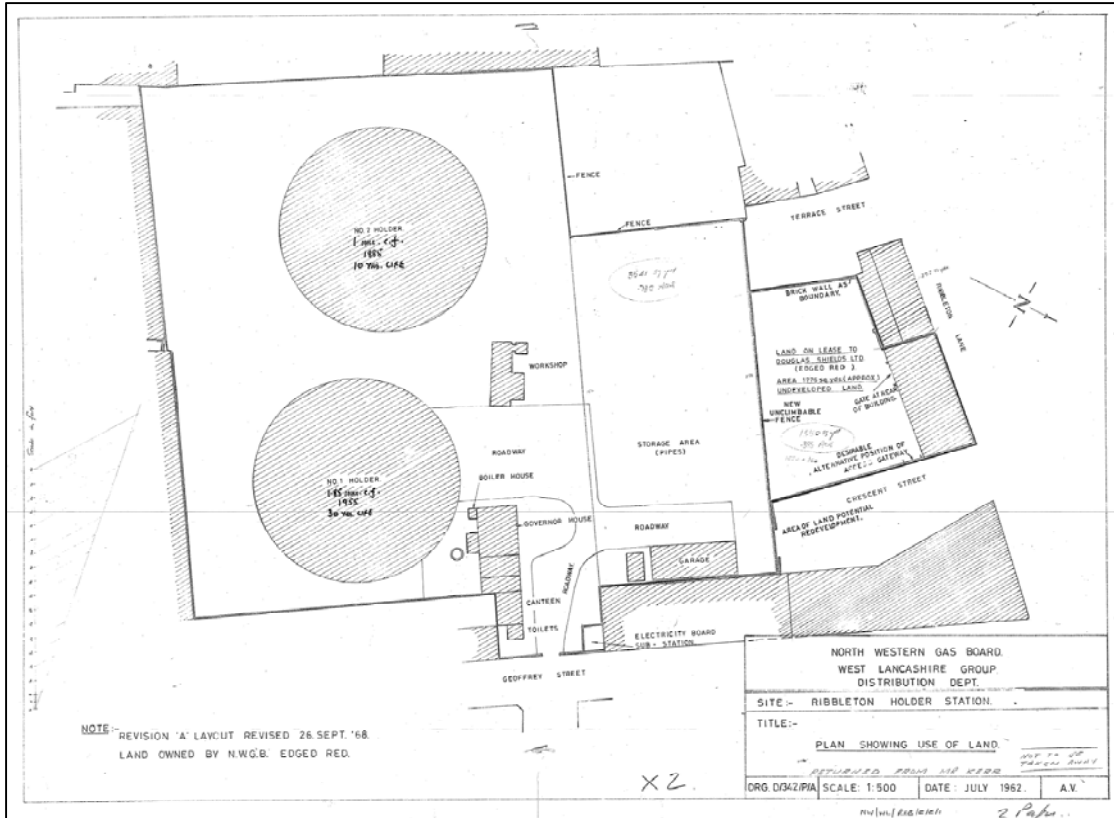


Ordnance Survey map of 1912 Fig 4



Ordnance Survey map of 1938 Fig 5

RIBBLETON LANE, PRESTON



Plan of the Gasholder Station, dated 1962 (NW/WL/RIB/E/E/1) Fig 6

5 HISTORIC BUILDING RECORDING

5.1 Gasholder 1 (Figs 9-17)

Gasholder 1 was a four-lift spiral-guided gasholder with a below-ground tank and was built in 1955 by Ashmore, Benson & Pease. The company Ashmore, Benson, Pease & Co. Ltd was formed in April 1885 following a takeover of Ashmore and White. The firm had a works at Parkfield Works, Stockton-on-Tees and advertised as Engineers and Iron Founders, and makers of every description of gas-works apparatus (Grace's Guide 2018a). Another example of a 1950s spiral-guided gasholder by Ashmore, Benson and Pease has been recorded at Darlington Street, Wigan (Bassir, forthcoming a). The gasholder replaced an earlier column-guided gasholder which was built in 1869 by Thomas Piggot & Son of Birmingham who later constructed Gasholder 2 in 1885. Aerial views of the site held at the *Britain from Above* archive show that the former Gasholder 1 was a giant single-order gasholder closely resembling Gasholder 2 (<https://britainfromabove.org.uk/>).

The tank had a diameter of 46.3m (152' 0") and was sunk to a depth of 9.1m (30' 0"). The gasholder had a total storage capacity of 54,476 cu. m (1,923,830 cu. ft). The lift are described as being constructed of steel and riveted (Appendix); their dimensions are given as follows:

Table 1: Gasholder 1 lift dimensions

	Inner, 1st lift	2nd lift	3rd lift	Outer, 4th lift
Diameter	42.7m (140' 3")	43.6m (143' 3")	44.6,m (146' 3")	45.5m (149' 3")
Depth	30'	30'	30'	30'
Number of rollers	16	16	24	30

The cup and grips were square profile and comprised 10" x 3 ½" channels, the grip sheets were 24" in height. The lift ladders and roller carriages were mounted onto the grip channels. The lifts were closely spaced with handrails installed around the perimeter of each one. The sheeting thickness has been recorded as ½" and ¼", 10G for the top row sheets, 3/8" for the bottom sheets, and 10G for the intermediate sheets.

The gasholder utilised fairly standard dual roller carriages in which each roller axel was mounted within a housing bolted to the carriage footing. The rollers were measured as 260mm in diameter. The majority of the spiral rails were fitted with plate run out stops; a few examples of capping run out stops were also noted. The thirty outermost roller carriages were seated on large carriage footings which projected over the tank edge. Half of these footings utilised the earlier column footings and could be differentiated by the large hexagonal nuts connecting to the underlying anchor bolts. This suggests a slight difference between the former Gasholder 1 and the later Gasholder 2 which had 17 columns rather than 15.

The crown sheets were arranged in radial courses and the sheets were riveted at the edges. The thicker sheets over the top curb were riveted to the underlying rafters and overlap plates were placed over the sheet seams. The crown rise has been measured as 2.9m (9' 6"). At the apex of the crown were two valves and a number of smaller venting valves were installed around the edge of the crown. Hydraulic Livesey boxes were installed at the north-west and north-east sides of the crown and a flat access

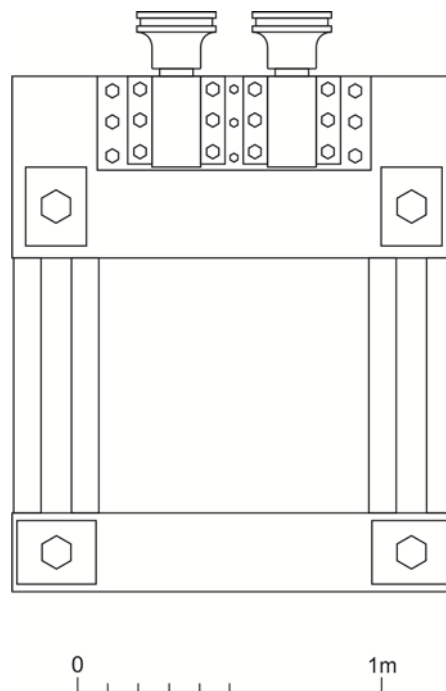
lids were located at the south and north sides. A walkway led from the east-south-east to the west-north-west sides of the crown.

The gasholder used an electrical anti-freeze system and the closed-ladder pylons carrying cable trays were located at the northern side of the gasholder. Various pressure switches, telemetry and height alarms were installed around the perimeter of the lifts. Oil film applicators were located at the north-west side of the crown.

A circular dry well with siphon pump was located at the north-north-east side of the gasholder. It was flush with the ground with an iron or steel grate cover and a ladder fixed to the well wall allowed access to the underlying pipes. This feature was constructed for the earlier gasholder and retained for use by the spiral-guided holder. An interceptor was located adjacent to the well with overflow pipes leading between the two. At the north side of the tank was a small platform which allowed access through the various lift hand rails and onto the crown. A gasholder designation plaque reading HOLDER NO 1 was attached to the platform railings along with safety signs. A sign with capacity and pressure information was attached to the adjacent stair.

Each lift had its own stair and these comprised inclined steel steps supported on frames of riveted steel angles. Guide rails fixed to the back of the each set of steps interacted with small roller carriages on the adjacent lift.

A survey of the gasholder dumping suggests that it has a curved profile rising c3m to the centre, with a 2m wide annulus around the edge of the tank (NG 2014).



Measured drawing of an example tank roller carriage (1:25) Fig 7

5.2 Gasholder 2 (Figs 18-28)

Gasholder 2 was a giant single-order, single-tier, column-guided gasholder with below-ground tank and two lifts. It was constructed in 1885 by Thomas Piggot & Co.; this company was established in 1822 and had their foundry at Spring Hill, Birmingham, and advertised themselves as manufacturers and erectors of gasholder, gas plants and other constructional steel work and pipes (Grace's Guide 2018b). A comparable example of a gasholder of the same period by Thomas Piggot & Co. was Gasholder 4 (1879) at the Liverpool Street Gasworks, Salford (Bassir Forthcoming b).

The internal diameter of the tank was 47m (154' 0") and it was sunk to a depth of 9.1m (30' 0"). The columns stood to a height of 19.6m (64' 2"). The gasholder had a total capacity of 30,851 cu.m. (1,089,460 cu. ft.) including the crown rise capacity. The lift dimensions have been recorded as follows (See Appendix):

Table 2: Gasholder 2 lift dimensions

	1st / Outer lift	2nd lift
Diameter	46.1m (151' 2")	45.4m (148' 10")
Depth	9.1m (30' 0")	9.1m (30' 0")

The hollow iron columns (described as wrought iron in the Basic Record form, see Appendix) each comprised of four drums with internally flanged butt joints. Vertical seams from the casting process could also be seen on the sides of the columns. The columns were in the Tuscan style with simple toroidal crowns and bases and this appears to have been a fairly common form for gasholders of this period prior to the move towards utilitarian standards (see also Gasholder 2, 1884, Black Lane gasholder Station, Macclesfield (Bassir, 2016)). The basal diameter of each column was c1m and each column tapered towards the crown. The column footings comprised square stone or concrete blocks covered with an iron casing measuring 1450mm in width and 250mm in height (exposed). Anchor bolts were located at each corner of the footing. The columns had toroidal bases which concealed an internal ring of bolts. The toroidal bases were a separate element to the columns and a vertical lip above each basal unit concealed internal flanged and bolted joints as also noted at Gasholder 4, Liverpool Street (Bassir, forthcoming). Attached to the side of each column at a height of 1.4m from the footings were bolted plaques, each reading ERECTED BY THOs PIGGOT & Co/ 1885/ BIRMINGHAM. A continuous vertical ladder was attached to the side of column 4. At the base of the crown were platforms allowing access onto the crown.

Writing in 1884, Frederick Colyer, M. Inst, stated that "*when cast-iron columns are used, they should be turned and bored at the joints and at the bases also. Large columns should have internal faced flanges, the size at the joint being sufficient for a man to pass through. When the height of the columns exceeds 20 feet, they should be stayed or braced with wrought-iron ties or light lattice girders at the centre. In this case the columns may be made in two tiers, the girders resting on the caps of the lower tier* (Colyer 1884, 92)."

The columns each had a numerical designation with No.1 being located at the north-east side of the tank and the numbers proceeded clockwise to 17. The column designations were stencil painted on the front of each column at roughly head height.

At the top of each column was a simple Tuscan-style toroidal crown supporting a square entablature box to which the girders attached. The entablature boxes had bolted plates with handles on the reverse faces and pairs of bolts to each side of the

girders as well as on the outer face, these presumably securing the entablature box to the columns. The flat lattice girders comprised pairs of angle stringers securing the riveted web of flat bars. At the centre of each lattice intersection was a cast iron rosette, a common decorative element of late 19th century gasholders which can also be found on early examples of standard-guided gasholders (see Gasholder 1, 1893, Junction Street, Brierfield (Bassir 2018)). The girders were simply bolted via gusset plates to the sides of the entablature boxes.

The lifts were guided by means of cantilevered goose-neck roller carriages, each formed of pairs of tapered curving side plates bolted to carriage footings on the crown curb. The spoked rollers ran up C-profile channels attached by brackets to the reverse face of the columns. The rollers of the outer lift were not visible during this survey.

The crown comprised roughly square sheets riveted at their edges and arranged in staggered concentric courses. The crown rise is given as 2.3m (7' 6"). Walkways crossed to the centre of the crown from the north-west to south-east, as well as spanning around the edge of the crown. The sheets of the outer curb were ½" thickness compared to the 10G sheets forming the main part of the crown. The centre of the crown was a single venting valve. Oil film applicators were located at the eastern side of the crown. Oval flat-lid manholes were located at the north and north-east, and south sides of the crown perimeter.

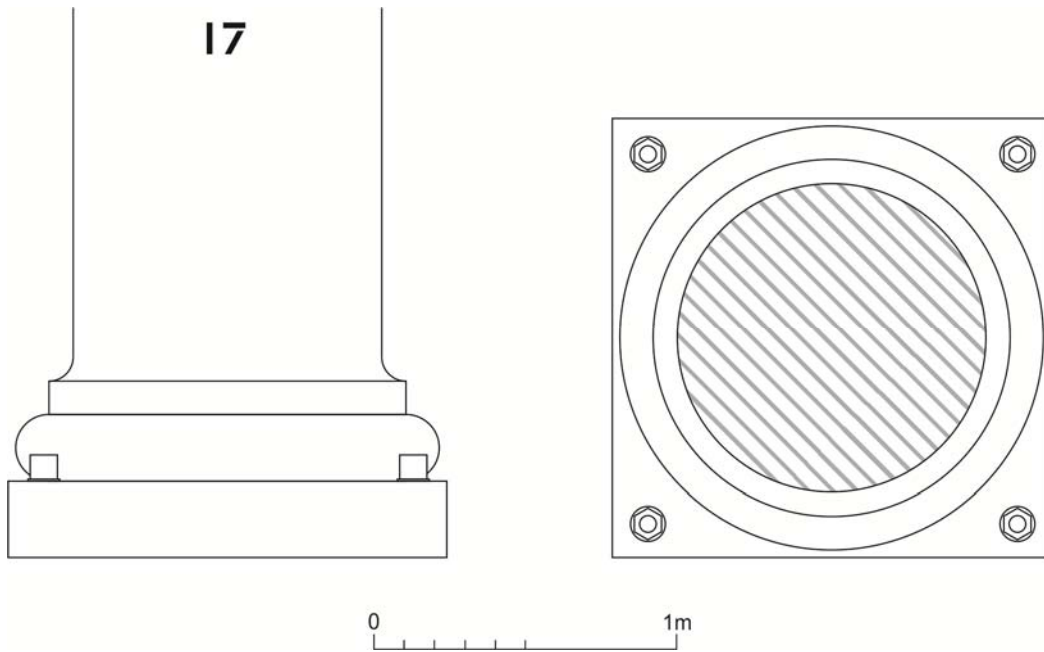
The cup and grips are described in the Basic Record form as 10" pressed plate but could not be examined during this survey. The height of the grip plates is given as 24".

The 30" inlet and outlet pipes were located together at the north-east side of the gasholder where a circular dry-well with steel plate cover allowed accessed to the pipes. The mounting point for a former siphon pump could be seen on the dry well cover. On the tank railings adjacent to the dry well was a sign providing capacity and pressure information.

A survey of the dumpling shows that it had a gentle curved slope from the 2m wide annulus to the centre at a height of c2m (NG 2014).

The gasholder latterly utilised an electrical anti-freeze system and cable trays were attached to the side of column 2. The gasholder formerly had a steam anti-freeze system and the truncated remains of the former pipe pylons could be seen at the tank edge.

The edge of the tank was surrounded by a short decorative cast iron railing. This comprised decorative posts linked by decorative webbing. The posts appear to have been made to resemble early multiple-order gasholder columns. It has been noted that on several early standard-guided gasholders, the shape of the standards was mirrored on the handrails (Tucker 2000), (see also Gasholder 7, 1878, Imperial Road Gasworks, Fulham (Bassir 2017)).



Measured drawing of an example column base (1:25) Fig 8

5.3 Miscellaneous (Figs 29-31)

The former Workshop was located to the north of the two gasholders and comprised a linear single-storey brick-built range measuring c14m x 4.5m, with a projecting square extension on the north side. The main part of the building has a gabled roof of corrugated sheets from which two ventilators emerge. The east gable elevation has a large roller door with window over and the west elevation has a double-door. On the south elevation are two eight light windows flanking two larger boarded up window; all of the windows are within panels of recessed brickwork and the smaller distal windows may be reductions of earlier larger windows. The windows have concrete sills and lintels. The structure does not appear on Ordnance Survey mapping predating the 1950s and was likely built during the mid 1950s when Gasholder 1 was rebuilt.

A linear block of buildings was located to the north-east of Gasholder and comprised three main parts, a Governor House, Electrical Switch Room or Generator Room, and Canteen. The Governor House was a brick built single-storied structure with gabled slate roof. The north elevation had a central double-door flanked by a window and a blocked former door. The west gable elevation had a single-width door on the north side and two windows adjacent. The south elevation showed evidence of making good of former extensions which can be seen on Ordnance Survey maps of 1960s onwards. The switch room was constructed of more modern bricks than the Governor House and had a cat slide roof of corrugated sheets. A blocked doorway was noted on the south elevation and on the north elevation were two double doors flanking a central window. Cable trays were fixed above the two doorways and crossed over the north wall of the Governor House, carrying cables which served the telemetry and electrical anti-freeze systems of the two gasholders. The eastern part of the building was a small block with gabled roof and had a blocked doorway and active window on the north elevation and possible blocked door to the south. The brickwork was partly keyed into the adjacent structure suggesting that it may have been a later addition. The buildings occupy the position of structure shown on mapping from the late 19th century; the Governor House may represent a survival of one of these buildings, though much altered, however the remainder of the buildings appear to post-date the 1950s.

The buildings were in a poor state of repair and had been subject to vandalism. Access was not attempted to the buildings.

6 DISCUSSION

Gasholder 1 was a typical example of mid 20th-century spiral-guided gasholder demonstrating a common pattern of gasholder development in which a column-guided gasholder was replaced with a spirally guided one which could provide significantly greater storage capacity within the same footprint and using the existing tank, in this instance doubling the capacity of Gasholder 2.

Gasholder 2 was a good, though relatively late, example of a style of column guided gasholder which was common in the mid to late 19th century for gasholders up to a height of 60 feet. Giant single-order, single-tier gasholders appeared in the mid 19th century and represented a progression from tripod guided holders and small single-order, single-tier gasholders with one lift, as gasholders increased in diameter and were provided with multiple lifts. The earliest example was Kennington No.1 (1847) which had a diameter of 150' (Tucker 2000). Tucker, in his London Gasholders Survey suggests that Holder 5 at Battersea, built 1875, was among the last to be built and the only one remaining intact, however Gasholder 2 at Ribbleton Lane post-dated that at Battersea by a decade. The use of lattice girders is also indicative of this relatively late date, this design having superseded the use of perforated web girders and compound girders (Tucker 2000). It is unclear why this relatively outdated design was utilised at Ribbleton as larger gasholders with multiple orders and larger had been constructed since the 1870s as evidenced by those at Salford; one likely possibility may be that this choice was simply related to the site constraints and the size of gasholder which could be comfortably accommodated within the available area. The use of light decorative embellishment in the form of rosettes on the girders is fairly typical of this period in which the sometimes quite elaborate Classically inspired aesthetics of holders such as those at Imperial Road, Fulham, had been greatly decreased but gasholders had not quite moved to the purely utilitarian forms typical of the 20th century. The decorative rail around the tank kerb was a surprising survival of what may have formerly been a common feature.

The extent of recording which could be undertaken during this survey was limited due to access restrictions and it is recommended that an example of the entablature boxes, a representative length of the girders, and an example of the roller carriage sets be put aside during demolition works to be recorded as a measured drawing by an archaeologist. Likewise it is recommended that an archaeological record be produced of the internal structures of both gasholders as well as the tanks and dumplings.



Gasholder 1, looking north-west Fig 9



Gasholder 1, looking south-east Fig 10



View of the lift grips and crown, also showing flat lid manhole Fig 11



View of the crown, showing Livesey hydraulic access and small vents Fig 12



The anti-freeze supporting pylons with adjacent lift platform Fig 13



Example of the outer roller carriages Fig 14



Example of the lift roller carriages with run-out stops Fig 15



Example of the lift stairs Fig 16



The dry well with overflow pipes leading to the interceptor Fig 17



Gasholder 2, looking north Fig 18



The gasholder columns Fig 19



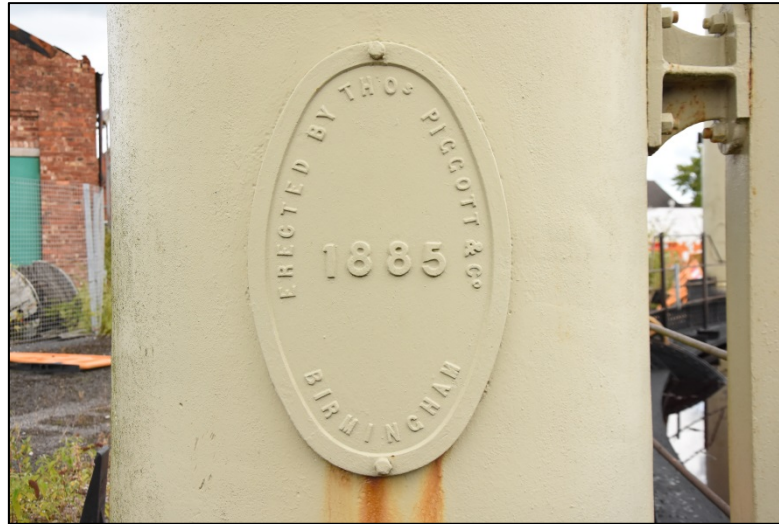
Detail of the entablature boxes and girder connections Fig 20



Detail of the girder rosettes Fig 21



Example of the column bases Fig 22



Detail of commemorative plaque Fig 23



Example of the roller carriages Fig 24



Detail of the decorative railings Fig 25



General view of the gasholder crown, looking north-east Fig 26



The crown top curb, also showing manhole access, looking south-east Fig 27



The dry well Fig 28



The Governor House and electrical switch room, looking south-east Fig 29



The Governor House and electrical switch room, looking north Fig 30



The Workshop, looking north-west Fig 31

Plan of the recording area Fig 32

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MOLA
27 September 2018

Appendix - Gasholder Basic Record Sheets

REGIONAL PLANT DEPT.

REPORT OF EXAMINATION OF GASHOLDER
WATER-SEALED TYPE — BASIC RECORD

NAME British Gas North Western North Area
 LOCATION Ribbleton Lane, Preston PR15NH
 GASHOLDER No. 1 Date of inspection _____
 SITUATION _____
 HOLDER BUILT BY Ashmore, Benson & Pease Date of completion 1955
 TANK BUILT BY T.P. Piggott & Son Date of completion 1869
 LIFT ADDED BY _____ Date of completion _____
 TYPE (i.e. ~~Crown~~, ~~Spiral~~, ~~or~~ ~~Roof~~ Guided) Spiral guided in brick tank
 CAPACITY (exclusive of Crown) 1,850,000 CU. FT. (52,386 cu.m.)
 CAPACITY OF CROWN 73,830 cu.ft. (2,090 cu.m.)

LIFTS	Top	Second	Third	Fourth	Fifth
Diameter	140'-3"	143'-3"	146'-3"	149'-3"	
Depth	30'	30'	30'	30'	
Pressure (in. w.g.)/PSI	7.7	10.7	13.6	16.6	
No. of Columns	16	16	24	30	
Spiral Guides					

GUIDE FRAMING (General Description) Spiral rails on rail plates

CROWN—RISE 9'-6" { Number and Type of Manholes 2 flat oval
 Position and Number of Gas and Air Vents _____

CHEETING THICKNESS { Crown: Outer Row $\frac{5}{8}$ ", $\frac{7}{16}$ ", $\frac{1}{4}$ ", $\frac{3}{16}$ " Other Rows _____
 & $\frac{1}{4}$ "
 Sides: Top Row $\frac{1}{2}$ ", $\frac{1}{4}$ " 10G Intermediate Rows 10G
 Bottom Row $\frac{3}{8}$ "

CLIPS & GRIPS (Size and construction, with sketch) 10" x $3\frac{1}{2}$ " channel

TOP CURB & CROWN FRAMING (Construction—See Sketch Sheet) 6" x 6" x $\frac{3}{4}$ " angle - top curb
Stiffening curb 6" x 6" x $\frac{3}{4}$ "

Crown framing not known

TYPE OF LADDER Staircase to all lifts

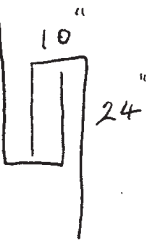
TANK { Diameter 152'-0" Depth 30'-0" Construction Brick
 Position in Relation to Ground Level: Top curb at ground level
 Rest Blocks: Not known Number: _____ Size: _____

MATERIAL USED FOR CONSTRUCTION OF { Gasholder Steel Rivetted
 Tank Brick

INLET & OUTLET CONNECTIONS { Size: 24" Inlet N.E.
 Position of Each: Outlet S.W. Together or separated: Separated

TYPE OF SAFETY SEAL { On Inlet Connection: Livesey box
 On Outlet Connection: Livesey box

SIGNATURE _____ DATE _____



BRITISH GAS

REGIONAL PLANT DEPT.

REPORT OF EXAMINATION OF GASHOLDER WATER-SEALED TYPE — BASIC RECORD

NAME British Gas North Western North Area
 LOCATION Ribbleton Lane, Preston PRI 5NH
 GASHOLDER No. 2 Date of inspection _____
 SITUATION _____
 HOLDER BUILT BY Piggott & Son Date of completion 1885
 TANK BUILT BY Not known Date of completion 1885
 LIFT ADDED BY _____ Date of completion _____
 TYPE (i.e. Column, ~~Span of Ropes~~ Guided) Column guided in brick tank
 CAPACITY (exclusive of Crown) 1,024,000 cu.ft. (28,997 cu.m.)
 CAPACITY OF CROWN 65,460 cu.ft. (1,854 cu.m.)

LIFTS	Top	Second	Third	Fourth	Fifth
Diameter	148'-10"	151'-2"			
Depth	30'	30"			
Pressure (in. w.g.) at tank	4.5	6.4			
No. of Columns Span of Ropes	17				

GUIDE FRAMING (General Description) 17 cast iron columns 64'-2" high and one tier lattice girders

CROWN—RISE 7'-6" { Number and Type of Manholes 3 flat covers
 Position and Number of Gas and Air Vents _____
 Crown: Outer Row 1/2" Other Rows 10G

SHEETING THICKNESS { Sides: Top Row 1/2" Intermediate Rows 12G
 Bottom Row 3/8"

CUPS & GRIPS (Size and construction, with sketch) 10" pressed plate

TOP CURB & CROWN FRAMING (Construction—See Sketch Sheet) Not known

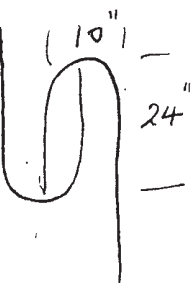
TYPE OF LADDER Wrought iron ladder
 TANK { Diameter 154' Depth 30' Construction Brick
 Position in Relation to Ground Level: Top curb at ground level
 Rest Blocks: Not known Number: _____ Size: _____

MATERIAL USED FOR CONSTRUCTION OF { Gasholder Wrought iron Rivetted
 Tank Brick and puddled clay

INLET & OUTLET CONNECTIONS { Size: 30"
 Position of Each: N.E. Together or separated: Together
 Not known

TYPE OF SAFETY SEAL { On Inlet Connection: _____
 On Outlet Connection: Not known

SIGNATURE _____ DATE _____





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