

## **SALTSCAPE PROJECT, NORTHWICH, CHESHIRE**



### **ASSESSMENT OF SITES FOR ARCHAEOLOGICAL FIELDWORK**

### **PROJECT A8: THE SALT FIELDS INVESTIGATING THE SALT PRODUCTION LANDSCAPE IN NORTHWICH'S HISTORIC SALTSCAPE**

**REPORT NO 2015-001**



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Version 1

Saltscape Project A8: The salt fields investigating the salt production landscape in Northwich's historic saltscape

## 1. Background

The project seeks to investigate using archaeological methods the salt production landscape north-east of Northwich. This area contains the tourist nodes of the Lion Salt Works and the Anderton Boat Lift. Now, these represent the only industrial structures from the 19th and early 20th century in an essentially post-industrial landscape. The project seeks to re-associate the wider public with the earlier landscape and aims to reassert the link between the visible structures and the buried past. In doing so the project will training for volunteers in archaeological techniques, increase education in the historic industrial landscape and deliver a new and updated data set on the historic environment of the 'Saltscape' enabling better management of the area.

The overlap between the Lion Salt Works Project and the Saltscape Project means that much of the work from the former can be used in the latter. The following assessment broadly represents Phase 1 and 2 of the original project description.

- Phase 1 of the project would seek to create background documentation and a specification for the work.
- Phase 2 would involve walkover surveys of the sites.

## 2. Site Assessment 2015

The following assessment of the

### Site 1 – Marston Hall Mine Works

Location: Adjacent to Trent and Mersey Canal on south side (NGR SJ 662 761). c. 4 acres (1.5 hectares), 37,000 square metres.

A brief walkover survey was conducted on the 13<sup>th</sup> January 2015 as part of work to produce a guide book for the Lion Salt Works. Access to the site of the Marston Hall Mine Works was not possible as the land is now privately owned.

The site lies around 4.5m below the current level of the adjacent Trent and Mersey Canal and forms part of an area where subsidence is at its most

prevalent. The site is currently appears to be used for recreational off-road vehicles.

### Risks and Issues

The area is subsiding and collapses of the Trent and Mersey Canal have occurred in the last two years. Open areas of water are located centrally within the area of the mine and public and volunteer access may be limited because of the potential risks.

The land is privately owned and clearly marked as such. There is a strong likelihood that access issues will prevent archaeological work in this area.

### Site 2 – Alliance Works

Location: Adjacent to the Trent and Mersey Canal and the Lion Salt Works (NGR SJ 671 754). c. 5 acres (2 hectares)

The site lies adjacent and to the east of the Lion Salt Works. Detailed archaeological study as part of the Lion Salt Works Project has revealed that around 50% of the original layout of the Alliance Salt Works lay east of the Lion Salt Works site boundary in the adjacent field. The remainder of the remains have been investigated as part of the Lion Salt Works Project.<sup>1</sup>

The area has been subject to subsidence since the collapse of the main brine shaft in c. 1900. Alan Kinsey Thompson manager of the Lion Salt Works noted that subsidence was occurring on the site in the first decades of the 20<sup>th</sup> century.<sup>2</sup> The area was used for the dumping of material by the Thompson Family of the Lion Salt Works in the 1960s thus raising the level of the subsidence in locations.<sup>3</sup> This subsidence appears to have stabilised and was investigated as part of work associated with the Lion Salt Works Restoration. It is now visible as an extended depression filled with reeds. This appears to have resulted in the loss of 25-40% of the area associated with the former Alliance Works, including the former canal basin, five open pans adjacent to the basin and the railway shed. Survival of some of the buildings in the very south-east corner may have occurred.

<sup>1</sup> See Hewitson, C 2015

<sup>2</sup> Notes in diaries kept on borehole levels, now in the Lion Salt Works collection

<sup>3</sup> Letters Henry Lloyd Thompson to ICI Limited, Cheshire Archives

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### **Risks and Issues**

Subsequent to the revised Saltscape submission in March/ April 2014 the site has been redeveloped as part of the adjacent Park Homes development in Wincham, on Wincham Lane. A successful application had been submitted three years earlier but development did not commence until May/ June 2014. The site is now not available for fieldwork.

### **Site 3 and 4– Adelaide Works and Ollershaw Lane Works**

Site 3 Location: Adjacent to Trent and Mersey Canal and Ollershaw Lane (SJ 670 756). c. 15 acres (6 hectares), 16,600 sq metres

Site 4 Location: Adjacent to Trent and Mersey Canal and Ollershaw Lane (SJ 672 755). c. 17 acres (7 hectares), 51,000 sq metres.

The sites lie directly north and north-west of the Lion Salt Works on the northern bank of the Trent and Mersey Canal. The sites were originally surveyed in 1993 as part of the Cheshire Weaver Valley Rolling Programme.<sup>4</sup> The archaeological survey work involved historical map regression, archive research, walkover survey and archaeological trenching on the site. This revealed that there was the potential for surviving archaeological remains on the site.

A brief walkover survey was conducted on the 16<sup>th</sup> January 2015 as part of work to produce a guide book for the Lion Salt Works.

Access to the Adelaide Works was via Ollershaw Lane and the majority of the surviving remains are visible as low earthworks in a strip of land 20-30m (north-south) between the Trent and Mersey Canal and the edge of the Adelaide Flash.

At the western end of the site was a low, water-logged depression that was the remains of the canal basin. At the northern end of this were upstanding concrete remains of the head of the mine shaft.

These are now surrounded by a high metal palisade fence to prevent access to the mine head.



### **2.1: Area of earthworks, southern side of Adelaide Works**

The Ollershaw Lane works was east of the road and likewise survived as low earthworks in a strip of land 20-30m (north-south) between the Trent and Mersey Canal and the edge of the Adelaide Flash. The remains of two canal basins that extended into the site survived as low waterlogged areas visible in outline. To the north of the flash the line of the mineral railway survives as a track running east-west.



### **2.2: Earthworks at the Ollershaw Lane Works**

#### **Risks and Issues**

The land is currently owned by a local angling society and permission would have to be sought in advance of any work. It is possible that they may object to excavation on the land. Unprotected banks lie to the south and the canal bank and to the north and the Adelaide Flash. This may be prohibitive to using the site for children's groups.

<sup>4</sup> Horton, W (ed), 1993 The Cheshire (Weaver Valley) Rolling Programme – Archaeological Site Investigations, Ironbridge Gorge Museum Trust

Archaeological Unit report to Cheshire County Council

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The sites lie close to Lion Salt Works and this represents a good base for any work.

### **Conclusions**

Since the inception of the project it has become clear that two of the original sites proposed for investigation are not viable for further work. Of the two remaining sites the Adelaide Works and the Ollershaw Lane Works still have potential for further work and complement the existing investigation of the Lion Salt Works.

### **Alternative Sites**

Salt Works in Anderton have not been examined in great detail. The potential however, remains low. The desk-based assessment of 1992 examined the salt-works at the margins of the northern bank of the River Weaver and concluded that the area had suffered considerable subsidence. Those on the south bank fall within the area of the Winnington Works and evidence of earlier salt works are likely to have been removed by later chemical works. The exception to this is the British Salt Works where there remains the potential for some further work.

The salt works within Marston district have been extensively discussed within the desk-based assessment of 1992 and the later archaeological fieldwork of 1993. These form the core of the sites discussed above and are included in Appendix 1 below.

Examination of salt works in Wincham District suggests that the majority have been demolished and the land reused for alternative industrial or residential use. West of the Ollershaw Lane bridge, the sites north and south of the canal have been redeveloped as the New Cheshire Salt Works and park homes site respectively. East of the Ollershaw Lane bridge, sites lined the north of the canal. All these sites are now occupied by late 20<sup>th</sup> and 21<sup>st</sup> century industrial development that will have removed any trace of the original salt works. The exception appears to be the Imperial Salt Works, see below. Details of these sites are included in

Appendix 1 below. The following sites may have potential for further work.

### **Site 5 - Marston Old Mine and Salt Works/ Former Line of the Trent and Mersey Canal, Marston**

This site is located around 400m north-west of the Lion Salt Works on the Trent and Mersey Canal. It lies on the southern bank of the canal set back from the towpath in low shrub land. The former line of the canal that was moved further to the north to accommodate subsidence is clearly visible as earthworks. Archaeological desk-based assessment was undertaken in 1992 as part of the assessment of the sites, noted as Area N4.<sup>5</sup> This suggested that there was low archaeological potential for the site of the Marston Old Mine. However, there remains potential for tracing the line of the Trent and Mersey Canal.

### **Site 6 - British Salt Works, Anderton**

The British Salt Works was located within the area of Anderton Park to the south-west of the Anderton Boat Lift. Surviving evidence of the salt works survive as two pools, former brine cisterns that are now used as fishing pools. The area fell outside the scope of the 1992 and 1993 investigations, as these were designed to assess areas that were deemed at risk or due for further development.



### **2.3: The former brine cisterns used as fishing pools, British Salt Works**

There remains the potential for examination of the British Salt Works, initially as a desk-based study placing the salt works in the context of the

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<sup>5</sup> Drury, D and Iles, P 1992. Cheshire (Weaver Valley) Rolling Programme: An archaeological assessment, Lancaster University Archaeology Unit

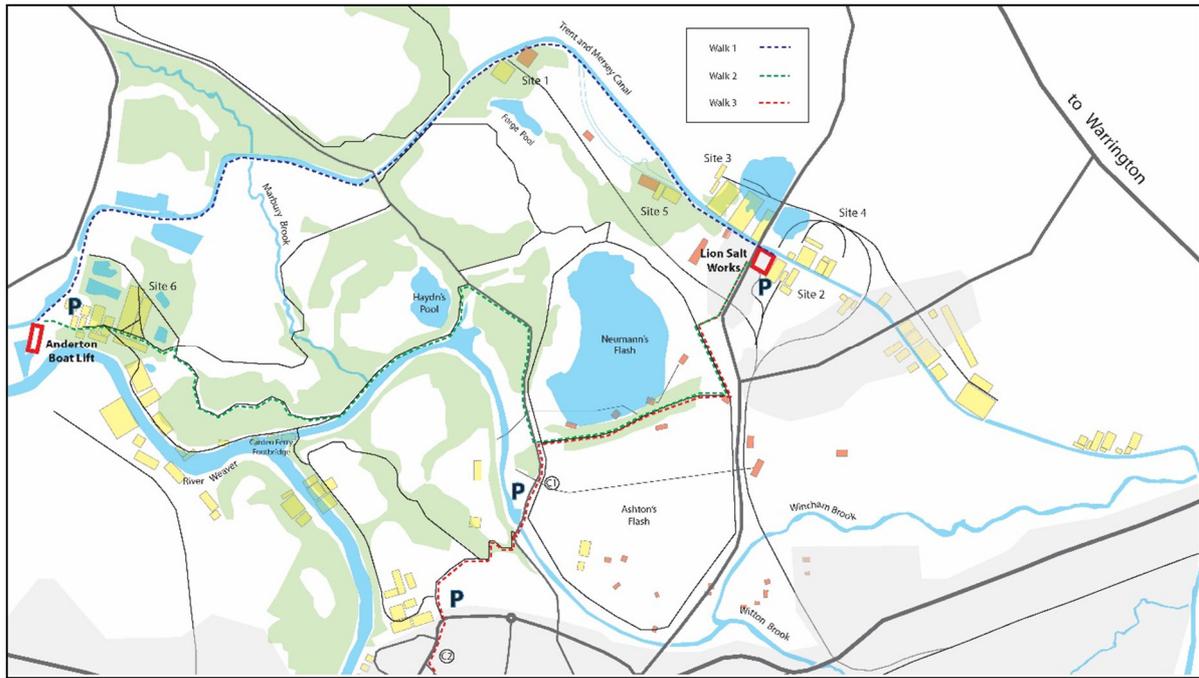
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Anderton Salt Industry. There would then be the potential to conduct walk-over surveys and fieldwork may enable the brine cisterns to be placed within the context of the wider salt works.

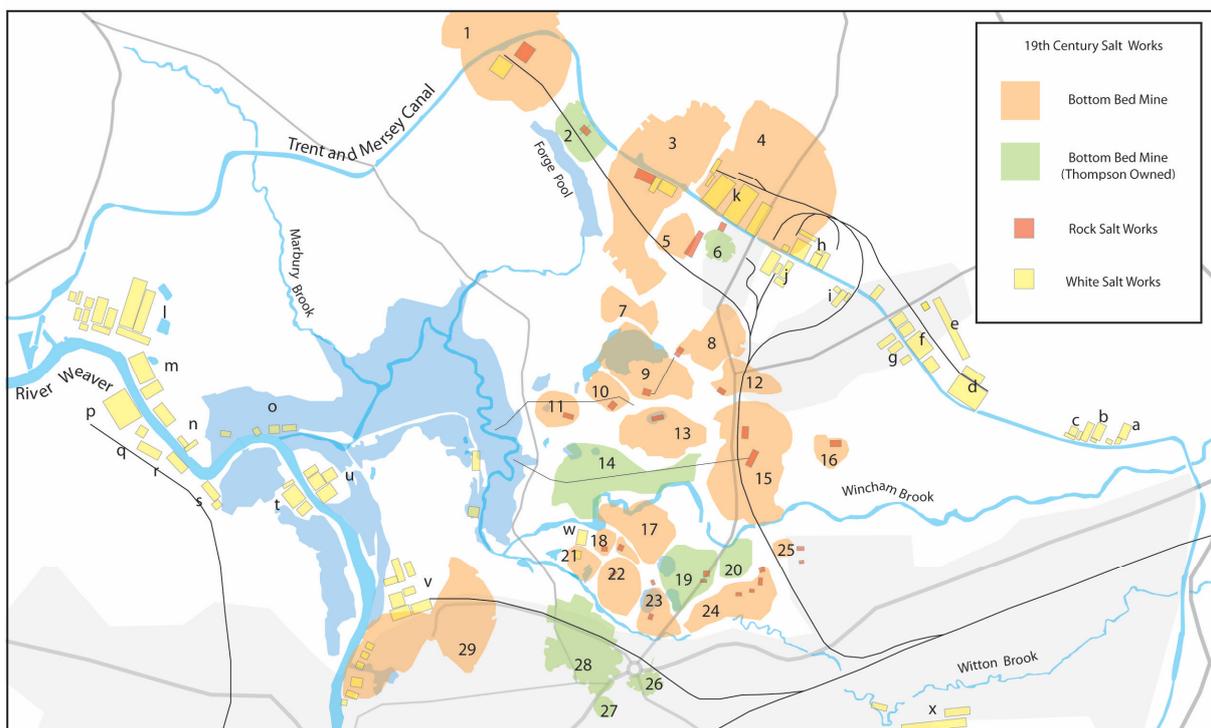
### **Site 7 – Imperial Salt Works, Wincham**

The Imperial Salt Works was located in Wincham east of the bridge on the southern bank of the canal. Remains survive as earthworks visible on private land through a wire netting fence. Access issues may prevent access to this site.

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2.4: Location of archaeological sites discussed in text



**2.5: Rock Salt Mines** - 1. Marston Hall; 2. Pool; 3. Marston Old; 4. Adelaide; 5. New Zealand/ Gregory's; 6. Fletcher's/ Crystal; 7. Blackburn's New; 8. Ollershaw Lane; 9. Blackburn's Old; 10. Thomas Chantler's; 11. Littler's; 12. Gibson's; 13. Broady and Hadfield/ Townshend; 14. Platt's Hill; 15. British; 16. Williamson's; 17. Kent and Naylor's; 18. Tomkinson's; 19. Barton's; 20. Thompson's; 21. Ashton's Old; 22. Ashton's New; 23. Marshall's No 1; 24. Worthington, Firth and Co; 25. Worthington's; 26. Penny's Lane; 27. Neumann's; 28. Witton Hall; 29. Baron Quay

White 'Open-Pan' Salt-Works – a. Woodside; b. Sunbeam; c. Wincham Hall; d. Bridgefield and Victoria; e. Wincham; f. Wincham Patent Machinery; g. Imperial; h. Ollershaw Lane; i. Royal Oak; j. Alliance; k. Adelaide; l. British Company; m. Blackburn's; n. Spearman's; o. Littler's; p. Caldwell's; q. Marshall's; r. Handel's; s. Byeflat; t. Okel's; u. Island; v. Witton; w. Dunkirk; x. Bowman, Thompson and Co

### 3. Appendix 1: Background Historical

#### The Marston and Wincham Settlement

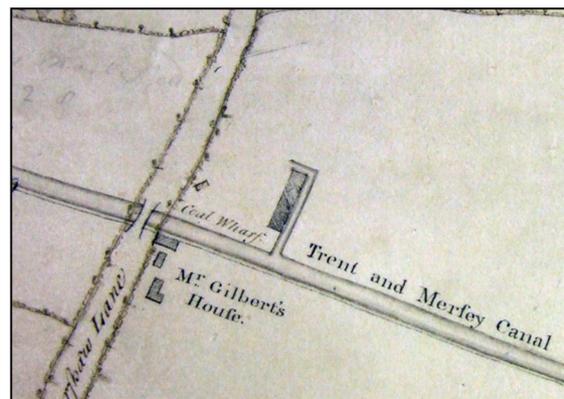
Marston and Wincham developed a distinct rural industrial character, based around the junction of roads over the canal, where salt works conglomerated. They maintain a semi-rural character to this day, due to their separation from the main urban spread of Northwich. This is in no small part due to the catastrophic subsidence of the late-19th and early-20th centuries that prevented development north and north-east of the town. Although set less than half a mile apart they are separate townships to this date. The boundary runs along the eastern side of the field directly east of the Alliance and Lion Salt Works.

#### Marston Township

The layout of Marston's core results from the development of salt working, both mining and brine extraction, in the area. The village has an essentially linear pattern formed by ribbon development along Ollershaw Lane. It currently extends from the canal bridge on Ollershaw Lane, south-west until the turn along the realigned road. At the turn of the century it was much larger including the industrial complexes of several salt works as well as extending to the north along Ollershaw Lane.

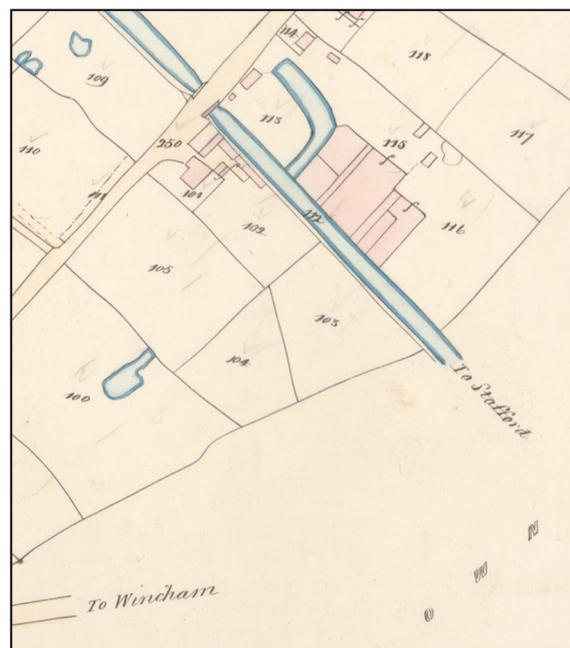
In the 18th century Marston was a small, insignificant hamlet. The arrival of the North Staffordshire (later Trent and Mersey) Canal, which opened in 1777, was to radically alter the settlement. Brothers John and Thomas Gilbert were, amongst many other interests, engineers and land agents to the Duke of Bridgewater and the entrepreneurs behind the construction of the canal; they realized how salt could be exploited using the canal as transport.<sup>6</sup> Soon after the opening of the canal, rock salt mining began in Marston, in 1781. John Gilbert the elder, purchased the Symme Fields for £2,000 and subsequently developed the

Marston Mine, to the west of the later Lion Salt Works site (see below).



3.1 The convenient location of both Ollershaw Lane and the canal meant John Gilbert built a house on this land plot adjacent to the bridge over the canal. 'Mr Gilbert's house' is shown on a plan, drawn in 1766 and updated in 1786.<sup>7</sup>

The village centre of Marston in the 18th and early 19th century was little more than a collection of houses. A plan of Marston, drawn in 1766 and updated in 1786, shows 'Mr Gilbert's House' on the present site of the Lion Salt Works.<sup>8</sup> This was later to become the Red Lion Hotel and is discussed in greater detail below (Section 6.1).



<sup>6</sup> CRO – DLT 4996/90/4; Matrix Archaeology 2012, Section 3.

<sup>7</sup> CRO DLT 4996-90-4, 1766 Plan Marston updated 1786

<sup>8</sup> CRO DCN 1984/66/32.

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**3.2** The 1846 Marston tithe plan shows the western half of the site was then occupied by the Red Lion Hotel and its outbuildings, later to become the site of the Lion Salt Works. The eastern half of the site was then an arable field, named as 'Outlet', extending to 1 acre and 2 roods (0.6ha.); this field was later to contain the Alliance Salt Works.<sup>9</sup>

Between the 1840s and 1870s Marston developed rapidly as a community with the expansion of salt-working in the outlying region of Northwich. The majority of the terraced cottages along Ollershaw Lane date to this period of expansion. Further cottages were established on Cross Street on the western side.<sup>10</sup> Marston expanded along Cross Street in the final decades of the 19th century with more small workers cottages built along the eastern branch of the street.<sup>11</sup> In 1877, as part of this expansion, a terrace of four cottages was built on the eastern side of Ollershaw Lane; in 1899 these were converted into the Red Lion Inn. These cottages are representative of the older houses in the village, which are typically 19th-century two-storey brick terraces. The majority of these buildings have been fenestrated,<sup>12</sup> but, in places, the original character survives. They have two-up, two-down plans, with semi-circular arched doorways and side passages leading to the rear.

Many more buildings existed in the village in the late-19th century, including a series of ill-built cottages located within the complex adjacent to the Red Lion Hotel. These were known as the Red Lion Yard and were the location of an outbreak of typhoid in the 1890s, described in greater detail below.

The mine collapses and subsequent salt subsidence of the late-19th and early 20th century had a dramatic effect on the settlement of Marston. The principal late 19th-century subsidence occurred at the south end of the village, where the collapse of Neumann's Mine resulted in the large flash visible today. So dramatic was the subsidence that it caused the realignment of the road system, which originally ran directly south from the corner of Ollershaw Lane at the end of the village (see below).

Within the settlement were three public houses on Ollershaw Lane: the Red Lion discussed below, the Rockminer's Arms (located in the vacant plot next to the Coronation Salt Store), and the New Inn, which still exists today as the Salt Barge.



**3.3:** St Paul's was a red brick church in the Early English style, from designs by Mr. John Douglas, architect, of Chester. Today, nothing survives of the church itself, but the attached village hall and the graveyard still exist. It was demolished in the 1930s as it became unsound due to the collapse and subsidence associated with the collapse of Adelaide Mine.

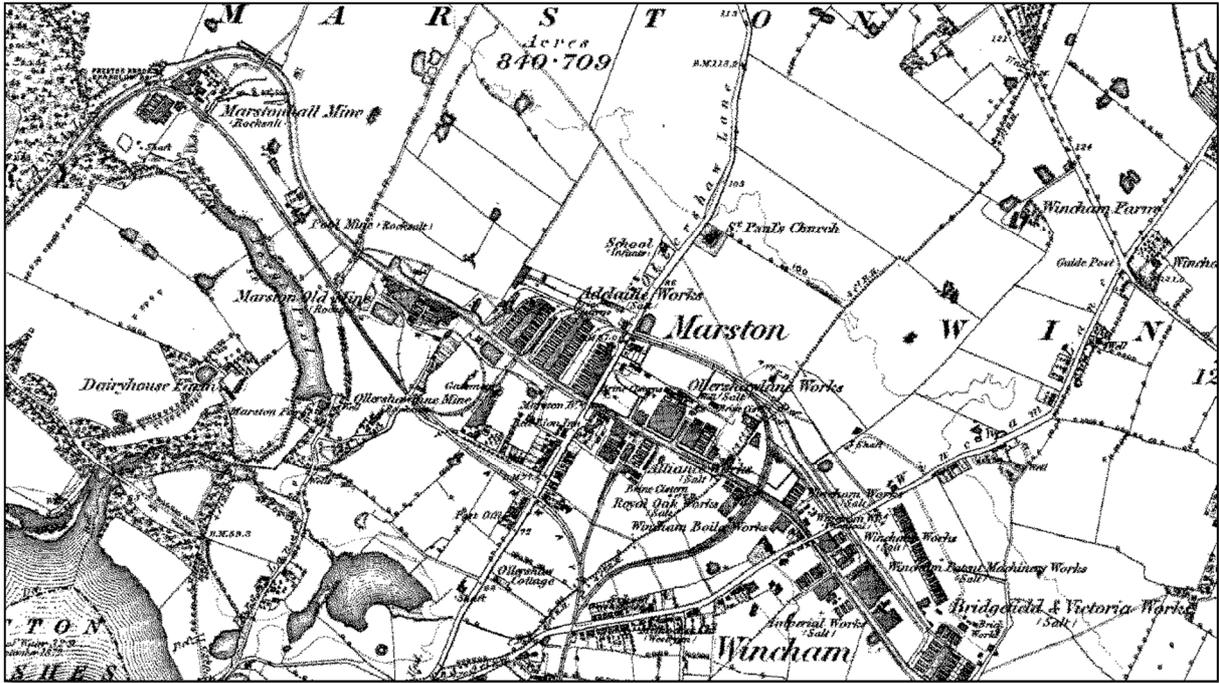
<sup>9</sup> Marston Tithe Map, EDT-263-2

<sup>10</sup> Ordnance Survey 1st edition 25-inch map, 1882.

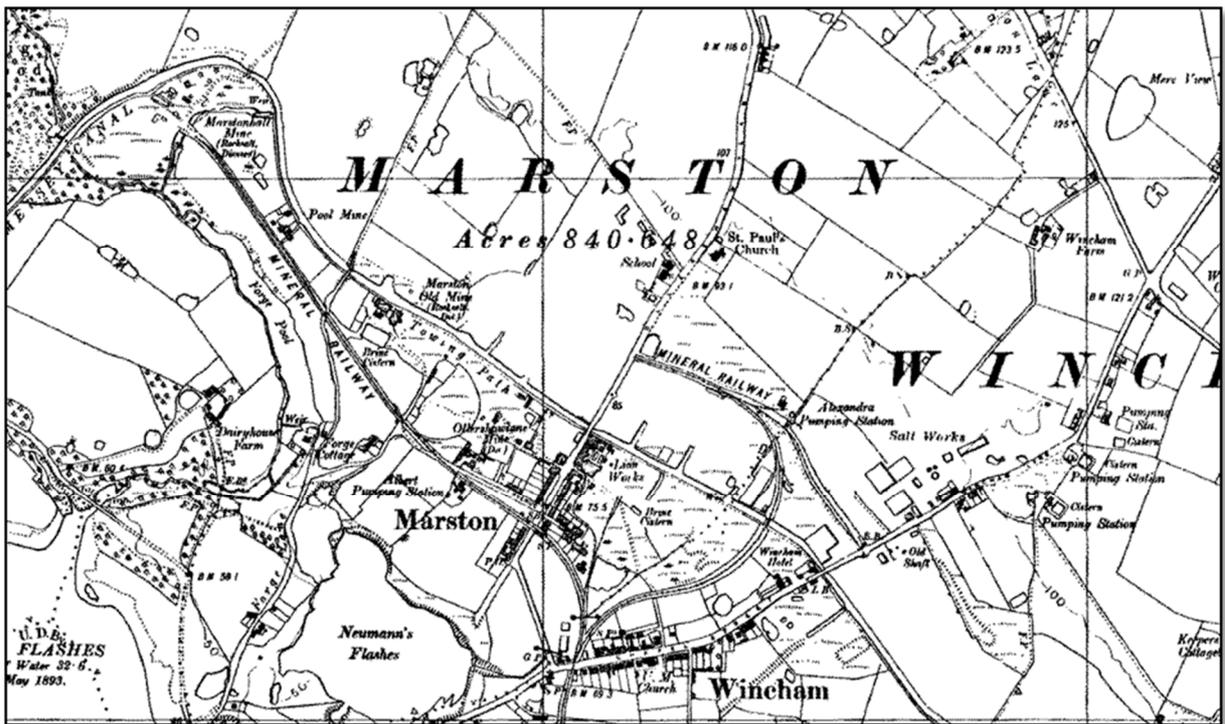
<sup>11</sup> Ordnance Survey 2nd edition 25-inch map, 1898.

<sup>12</sup> Vale Royal Borough Council 2004.

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3.4: Ordnance Survey Map, 1st Edition, Surveyed 1875, Marston and Wincham



3.5: Ordnance Survey Map, 2nd Edition, 1898, Marston and Wincham

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To the north of the canal the collapse of the Adelaide mine in 1929, created the flashes either side of Ollershaw Lane. Originally, a small cluster of cottages developed at the entrance of the Adelaide and Ollershaw Lane Salt Works. The wider community were served by the church of St Paul that lay to the north-west of the village centre beyond the Adelaide Works. St Paul's was a red brick church with a large pointed arched window in the gable, Early English style, from designs by Mr. Douglas, architect, of Chester, and consists of chancel with vestry and organ chamber on the south side, nave, north aisle with porch and a low spire and turret containing one bell.<sup>13</sup> Today, nothing survives of the church itself, but the attached village hall and the graveyard still exist. It was demolished in the 1930s as it became unsound due to the collapse and subsidence associated with the collapse of Adelaide Mine.<sup>14</sup> On the opposite side of the road was Marston Church of England Infants' School, erected, with teacher's residence, in 1855, by public subscription, on a site given by the late Lord de Tabley. The original school was demolished and a new school was erected in 1891, at a cost of £1,590, for 224 boys and girls and 150 infants; average attendance, 224 boys and girls and 150 infants.<sup>15</sup> The school also closed in the 1930s due to the collapse of the Adelaide Mine. It was reused to house German prisoners of war in the Second World War, who helped rebuild the road where it began subsiding into the flashes.<sup>16</sup>

By the late-1940s, the Marston community was much smaller. Pat Furness, who worked as a paper girl in c. 1949, recalled the village. Behind the Lion Salt Works, there was a 'detached house', presumably the cottage on the Alliance Salt Works. The 'Old Red Lion Public House' was two cottages occupied by Burstow (No 42) and Cox (No 44). The Salt Barge was the only public house and was then known as the 'New Inn'. To the rear of the New Inn a cinder track led to 'two canal-side cottages', presumably Crystal Cottage, and was also the location of Burgess' Coal Yard. At the opposite end of the street the terraces extended to the corner as it turned to Northwich, with the Post Office at No.

1 Ollershaw Lane on the very corner. South of the Avenue and Cross Street ran the railway lines that originally continued to the Marston Hall Mine.<sup>17</sup>

The size of the township, remains largely unchanged since the 1940s. The Lion Salt Works remains an enigmatic remnant of the salt industry within a semi-rural district. The once continuous uniform nature of the 19th-century housing has been punctuated by newer buildings or 'gap' sites where subsidence or the risk of subsidence has prevented development.

### Wincham Township

Wincham Township developed along the line of Chapel Street (formerly known as the Warrington Road), where it forked from Ollershaw Lane. It had already developed as a settlement prior to the arrival of the salt works in the 19th century. The settlement was fragmentary with a cluster of houses at the south-western end of the street, amongst which were a Wesleyan Methodist Chapel and a girls and boys school. A further small cluster of cottages existed north-east of the canal bridge.

A series of houses existed in the mid-19th century at the junction of Chapel Street/ Wincham Road and Ollershaw Lane. The subsidence and development of Neumann's Flash after the collapse of Neumann's Mine in the late-19th century saw the closure of the Warrington Road and its movement north-east of the salt fields. The south-western end of Wincham Township was abandoned and new houses developed along the street to the north-west and the canal.

Today, the community does not have the same characteristic 'village' feel of Marston. The absence of mines and proliferation of open-pan salt works within Wincham beyond the south-western end of the village has led to an alternative urban development. Former salt works have been given over to new land use, including large industrial factory units, retail outlets and a chalet park. The

<sup>13</sup> Kelly's Directory 1895

<sup>14</sup> CRO LSW (not accessioned) Mr Iredale, oral history transcript, c. 1989.

<sup>15</sup> Kelly's Directory 1895.

<sup>16</sup> CRO LSW (not accessioned) Mrs Annie Lawton, oral history transcript, c. 1989.

<sup>17</sup> CRO LSW (not accessioned) Pat Furness, oral history transcript, 1990.

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surviving 19th-century buildings are situated at the southern end of the village away from the canal.

### **Marston and Wincham Salt Works**

The Marston and Wincham townships expanded to serve a series of rock salt mines and white salt works. The Marston district was one of the earliest to develop rock salt mining, and for the majority of the 18th and early 19th century rock salt mines proliferated in Marston. The salt fields around Northwich began to close due to exhausted salt supplies and the effect of subsidence. There was a gradual movement out towards the more distant saltfields around Marston and Wincham. In the 1860s and 1870s white salt works proliferated along the line of the Trent and Mersey Canal.

Marston developed as a salt-working community prior to Wincham. The first salt mine in the district was sunk in the 1770s. Rock-salt mining was predominant in the area until the 1850s, after which many of the mines had accompanying white salt works.

In contrast the Wincham district developed later than Marston, and was associated predominantly with White Salt production. Many of the Wincham salt works were short lived, opening in the 1860s and 1870s. They were subsequently bought up by the Salt Union and many of the smaller works were closed as unprofitable. Some of the larger works were an exception to this rule and continued in production into the early part of the 20th century. One feature of the Wincham District was that the brine shafts and boreholes were situated in fields away from the canal. A series of pumping stations and brine reservoirs stored the salt prior to distribution through a series of brine pipes to the individual works.

### **Marston Hall (Hayes) salt works and rock salt mine**

The Marston Hall Works or William Hayes Mine was located north-west of the Lion Salt Works along the southern bank of the Trent and Mersey Canal. It was sunk in 1850-1851 by William Hayes. It had two

shafts, and a further air shaft both sunk 315 feet to the bottom bed. An old shaft of the former top bed mine the Marston Hall Old Brine Pit also existed on site. The mine and works was run as the Marston Hall Salt Company Ltd when it was sold to the Salt Union in 1888.

When Joseph Dickinson, Her Majesty's Inspector of Mines, visited in 1873 <sup>18</sup> he found that the:

*'height of the working is 6 yards with the rock salt in the roof not quite firm. Pillars are 10 yards square and 25 yards apart but the roof having cracked, a set of pillars are now made 12 yards square and only 18 yards apart.'*

Further movement of the roof led to the building of twenty timber cradles to support the roof, many along the line of the canal directly above. In 1869 Marston Hall Mine was the first mine in the area to install a grinding mill, something which would have increased output considerably. The mine owned 21 narrow boats, a coal boat and 2 open boats they also had a dry dock where these could be repaired.

The mine was sold to the Salt Union in 1888 for £25,182. At the time of the Salt Union acquisition it was described in detail. The mine was 32 acres (13ha.) in extent but continued to be exploited by the Salt Union until 1905 eventually reaching 40 acres (16.25ha.) in size. Above ground it was 9 acres in size with four dwellings houses, four cottages, a smithy, stables, storerooms, paint shops and an office. In addition there was a yard, loading docks, a repair docks and boat workshops for 21 narrow boats, two open boats and a coal boat. The works were split into two: to the south-west the salt works and to the north-east the mine (see 5.11 below).

An inventory of the salt works stated it had 12 salt pans, brine shafts, pipes, engines, cistern troughs, fresh water tank, furnace, steam pan stove, water hut, 2 drawing engines, salt rooms, fishery warehouse, stage, 2 hothouses, stove flues, storerooms, stage table, lath mill and engine, tubs, 3 large chimneys, 3 small chimney pipes, wooden shed, 14 salt carts, 28 barrows, 600 feet of water and steam piping and an iron press.

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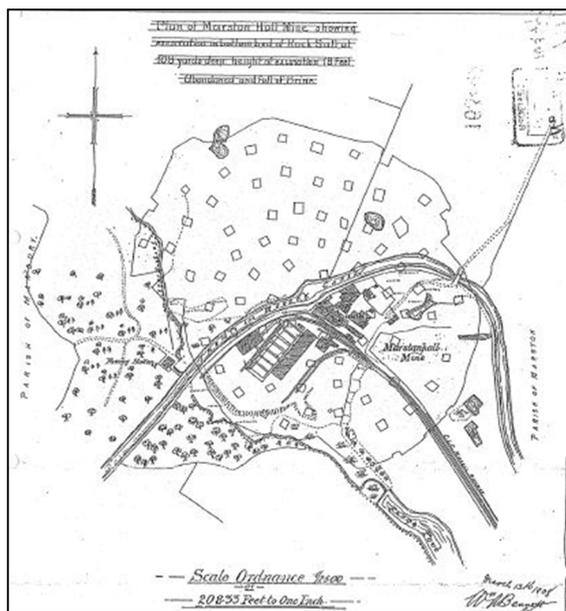
<sup>18</sup> Report of Joseph Dickinson, Inspector of Mines; P. P. 1873 (C3241).

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The salt mine was listed as having shafts, air compressing machine, 2 boilers and pipes, winding engines and ropes, rock mills and engines, 3 large boilers, steam pipes, water cistern, rock mill house, rock shed, hut, rock mill chimney, saw mill, drilling machine, powder magazine, rails in mine (altogether 2 miles), 20 trucks, 20 rock salt tubs.

The Salt Union Inventory of Properties of 1908<sup>19</sup> lists:

*Included with Marston Pool mine; 12 pans, hot houses, stoves, brine shafts, dwelling house, 4 cottages, Marston Hall Mine, Pool mine, rock mill, branch railway etc., the Marston Hall Salt Company, Limited. The whole of the pans and buildings are dismantled. The mine which was last worked in 1905 is flooded. The rock house and dwelling house are being dismantled. The whole of the property is on subsiding land. The brine shaft situated in a field near Adelaide works is filled up. The 4 cottages are in fair order.*



3.6: Plan of the Marston Hall Mine by William Bennett, 1908<sup>20</sup>

The mine collapsed in 1907, an event described in greater detail below. The abandoned mine was surveyed by William Bennett in 1908 (see 5.11). The survey shows, the site on the surface was split into two with the salt works in the south-west and in the

north-east a series of buildings that served the mine.



3.7: Marston Hall Mine, after the collapse of the mine and breach of the canal in 1907. The picture faces north and the turn of the canal can be seen in the background. The buildings beyond the breach are the mine buildings in the north-east of the site

Remains of the salt works are located in woodland south-west of the Trent and Mersey Canal about a mile north-east of the Lion Salt Works. The land on which the salt works stood is now about 6m (20 feet) below the level of the canal, and subsidence is still taking place along the line of the canal, as evidenced by the surface of the towpath being below water level and by the presence of fresh concrete along the towpath edge to contain the water.

The remains survived as earthworks surrounding the remains of Forge Pool. The remains were surveyed and excavated in 1993 and survived as lines of brickwork foundations. This included an engine base built of sandstone blocks and a well preserved reservoir with earth banks. To the south-west of the pool was a complex of earthworks 110m long and 60m wide. These included three large square structures and seven smaller rectangular structures that archaeological excavation showed to be the remains of pan houses and pan kilns.

The remains now lie on private land and have been used for recreational off road driving. The area looks to be continuing to subside on either side of the canal in this location.

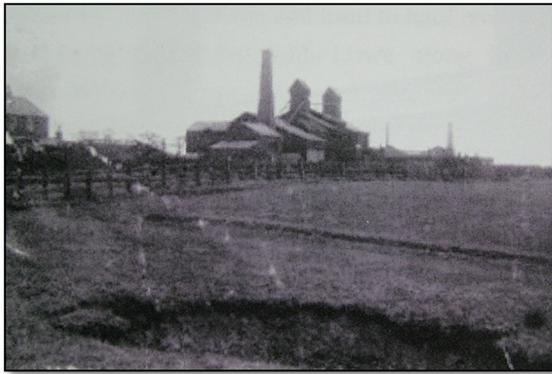
### **Marston Pool rock salt mine**

<sup>19</sup> Salt Union 1908, 27, entry 99

<sup>20</sup> Calvert 1915, 245

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Pool Mine was located along the Trent and Mersey Canal, north-west of the Lion Salt Works. It was also known as Poole Mine, Marston Pool Mine, John Thompson's Marston Mine and J. Thompson and Sons. It was a small mine about 6 acres (2.4ha.) in size. It was opened in 1846, and was part of the properties owned by John (Junior) and Henry Ingram Thompson. The 1875 Ordnance Survey Map shows that it did not have any salt pans at the surface, and simply operated as a salt mine. It was sold to the Salt Union in 1888.



**3.8:** Marston Pool mine seen from the south, showing a new subsidence hole beginning to form <sup>21</sup>

The Salt Union report of 1908 <sup>22</sup> stated that it was included with Marston Hall Mine when this was purchased in 1888.

This mine was also used to store explosives during and after the First World War. This had to be kept dry and therefore regular pumping of the mine became essential. Pumping continued at Pool Mine on a weekly basis to prevent flooding and inundation from workings in adjoining mines. By 1925 this had become a costly business. Per week it was estimated to cost: '7 ton of coal, 2 men half a day plus an engine driver, pumping water 6 hours for winchman and 3 hours to get up steam, carting of coal and ashes, insurance of boiler, cleaning of flues and general repairs to buildings'. As costs escalated a decision was taken in January 1929 to seal up the shafts.

Although this was connected to the old course of the canal, which was bypassed in 1958, part of the

canal arm can still be made out, as can the ramps up to the bridge, which carried the towing path over the entrance to the dock.

The remains were surveyed and investigated in 1993. This recorded the survival of stone and timber remains of a canal arm and associated sluice mechanism. Elsewhere the remains of linear earthwork banks, up to 2m in height were believed to be the remains of a series of pools. <sup>23</sup> A watching brief was conducted on large scale earth moving in the area, dated to 1997. The only survival of this record was a series of photographs now and it is not clear how they affected the remains. <sup>24</sup>

### Marston Old Salt Works

This was the earliest and the longest running rock salt mine in Marston. It was also known as Bourne and Co.'s Mine; Great Marston Mine; Fletcher and Rigby's Mine; and Marston Top. At its maximum size it was approximately 40 acres (16ha.), and extended 200 yards (183m) to the north of the canal and 300 yards (274m) to the south. <sup>25</sup>

The salt works was originally in the possession of Nicholas Ryder, as noted in a deed of 1776. This probably related to a top bed mine. The Osborne's Guide to the Grand Junction Railway of 1838 (see below) dates the opening of the mine as 63 years prior to its publication which would put the date at 1775. The deed of 1776 states that a '*lease of salt works and brine springs within an estate in Marston for 50 years*'. The lease was between from Thomas Lyons to Messrs Matthew Lyons, Thomas his son, and Mr [John] Gilbert. This also included a deed of co-partnership between the purchasing parties for carrying on the salt trade.

John Gilbert, was a land agent for the Duke of Bridgewater. He raised £1,000 from the Leicester family of Tabley Hall in order to develop the Marston Mine. At this time, he also purchased Symme Fields, on which the Alliance and Lion Salt Works stood for £2,000 from Thomas Barlow, silk merchant. This appears to have been part of a policy of buying up interests in the area. The

<sup>21</sup> Lynch, C 2002 Colin Lynch's book of Northwich

<sup>22</sup> Salt Union 1908, 27, entry 99

<sup>23</sup> Horton 1993, 41

<sup>24</sup> These photographs are believed to have been taken by Andrew Fielding, Project Officer for the Lion Salt Works. They are now in the Lion Salt Works Photographic Collection

<sup>25</sup> Horton 1993, 44

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Marston Old Mine was first noted on a map of 1786 as Gilbert and Bourne's salt works.

By the 1820s the Marston properties and salt interests had passed to John Gilbert (Junior) the son of John Gilbert. He appears to have sold his interests in the salt business and properties in Marston.

The Marston Old Mine was also the first mine to exploit the bottom bed of rock salt. The presence of a bottom bed was originally discovered in Lawton in 1779. Because of this an experimental shaft was sunk through the upper bed of the Marston Old Mine in 1781. This proved that the bottom bed also existed in the Northwich salt field. The salt in this bed was much purer, and all mining took place in the bottom bed after 1781.

John Gilbert used steam powered pumps and winding gear to exploit the lower bed. He agreed on behalf of his partners to pay Boulton and Watt £50 per annum for a license to use a 10hp steam engine for the purpose of drawing or winding rock salt and pumping brine out of a 'certain mine called Marston Rockpits situate near Northwich on the Trent and Mersey canal'.<sup>26</sup> It was able to raise 9 cwts (457kg) of salt the 120 yards (110m) to the surface.

This engine was giving trouble by 1795 apparently owing to bad servicing. Boulton and Watt's engine erector wrote: '*I this morning went to Mr Gilbert's engine which I find in a damnable plight – as there was only one engine man and a clerk, 2 stupid dogs ... The noise of the working gear may be heard almost a mile [away]*'. Later he reported to Mr Watt, '*I have a letter from Mr Gilbert on Monday desiring me to get the engine at Northwich put in orders as soon as conveniently could as they expect large orders for salt when the [wartime] embargo [on shipping] was taken off in Liverpool*'. 17th April 1795.<sup>27</sup>

The Marston Tithe Map of 1846, shows the works as an accumulation of buildings in the location of the salt works owned by Thomas Lyon and leased to Thomas Firth and Co as the Marston Salt Company.

Shortly prior to the tithe map the mine was described in the 1838 Osborne's Guide to the Grand Junction Railway:

*Information for the Travelling Public about the Rock Salt Mines of Northwich (extracts). There are many mines of rock salt in this neighbourhood, the principal one is at the MARSTON WORKS, the property of Messrs Worthington and Firth.*

*These are the oldest in the place; and the first engine that was ever erected for the working of salt mines is still at work here, and in very good repair. Formerly, water or windmills were employed in the pumping of the brine, and the remains of a pump of this kind are still to be found at Winsford. The Marston pit was sunk about 63 years ago, when a bed of salt was found 60 yards below the surface of the ground. This bed was worked for some time, and others were sunk through, until the present bed was found, which is 50 yards lower, being 112 yards from the surface. There are three shafts into this mine, and another shaft in the midst of the mine, in search of a better bed, which has not as yet been discovered.*

*The shaft is so free from drippings and dirt, that we need no miner's clothing for going down. Ladies as well as gentlemen, peers and peeresses, princes and potentates of all nations, have been down this mine.*

*The Grand Duke Michael of Russia went down when in England a short time ago. On a late occasion (the Meeting of the British Association for the Extension of Science, at Liverpool), eighty of the members of the association, by the invitation of the proprietors, visited this mine.*

*The principal parts of which were illuminated with upwards of 4,000 candles, tastefully displayed against the glittering rock, and a table was placed for the gratification of the company, decorated with flowers and wax lights, supplied with every delicacy, and a profusion of the choicest wines, to the charms of which, it appears, these philosophers were not insensible. Having alighted, we find ourselves in a large open gloomy-looking cavern, but on*

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<sup>26</sup> Chaloner 1949, 126.

<sup>27</sup> Chaloner 1961, 72.

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*proceeding further, we perceive, at an immense distance, some glimmering lights.*

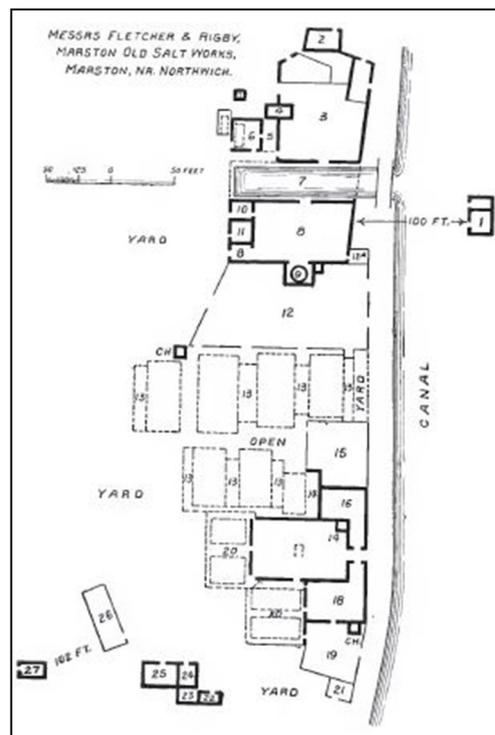
*At every twelve or fifteen yards there are prodigious pillars supporting the roof, and varying in size from twelve to twenty yards in diameter. Some of them are thirty yards long and twelve broad, giving us a pretty good notion of what the Hindoos' fabled pillars must be, that bear the world. Many millions of tons weight rest on these pillars. The bottom of the shaft, where we alight, appears a circular spot of moonlight. From places where a fracture has taken place, the light is reflected as from thousands of lustres. In some parts pillars have been removed, leaving a mass of hanging rock overhead, which appears awfully grand.*

*The extent of the present excavation is about twelve acres, and they contain from one to two hundred of these enormous columns. Rows of them rise on either side, as we walk along this magnificent subterranean region. The 'feet' or, 'eyes' of the shafts have the appearance of domes and spires when we look up, adorned with salt stalactites hanging down in beautiful droppings. The explosions which the blastings occasion, are tremendous thunderings, which shake the whole mine, and reverberate in awful volleys throughout the caverns long after.*<sup>28</sup>

The Marston Old Mine was again visited by the late Emperor Nicholas of Russia with the Royal Society of Liverpool in 1844.<sup>29</sup>

By the 1870s the salt works was known as the Marston Old Salt Works or Marston Old Mine and was operated by Fletcher and Rigby. It continued to be used as a mine but also produced white salt by evaporation in a series of pans. Thomas Ward's plan of the mine, dating to the 1870s or 1880s (5.6, above) shows a network of eleven open pans and four storehouses with two chimneys on the eastern side of the site; whilst on the western side of the site was a canal basin and a series of buildings that may have been associated with the mine and storage of rock salt. The plan equates closely to the Ordnance Survey 1<sup>st</sup> edition of 1877.<sup>30</sup>

The salt mine and works was sold to the Salt Union on the 19<sup>th</sup> July 1888 for £7,457 10s. The works were owned at the time by Thomas Henry Lyon and run by Fletcher and Rigby. The works were finally conveyed to the Salt union in 1897 almost a decade later, possibly due to the complicated ownership. They were subsequently pulled down.



3.9: Marston Old Salt Works, Sketch Plan by Thomas Ward, c. 1880<sup>31</sup>

The Salt Union Inventory of Properties 1908 lists the following:

*Lands, salt works, Rock salt mine, rock houses, storehouses, 11 pans, brine reservoirs, 8 cottages etc. Marston old Mine and works, Fletcher and Rigby. The mine is dry, but the salt is worked out to the old boundaries. The pans have been removed. Some of the buildings still remain but are in ruins. 10 cottages are tenanted. But in very poor condition, being on sinking land. 1 cottage is untenable.*<sup>32</sup>

The top bed mine was preserved intact until the roof cracked and water started to enter in 1921. The mine was abandoned in 1924. This mine was

<sup>28</sup> Lynch 2004, 34–35.

<sup>29</sup> Morris and Co.'s *Directory* 1874.

<sup>30</sup> Ordnance Survey,

<sup>31</sup> Calvert 1915, 698

<sup>32</sup> Salt Union 1908, 25, entry 99.

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also used for storing explosive. Subsidence has continued from that date to the present day. One of the shafts collapsed in 1933, and the hole continued to grow despite continuous tipping. By 1955 the crater was threatening the canal, and a new stretch was dug to bypass the sinking area, being opened in 1958.

The surface remains of the Marston Old Mine lie in woodland south of the new cut of the canal, on the line of the old cut. The mine continues to subside and the stretch of the 'new' canal nearest to the shafts shows signs of recent movement. Historically the canal edges have been raised many times with fresh concrete, and part of the towpath has again dipped to water level. In the field opposite a lake which formed a few years ago, is gradually increasing in size.

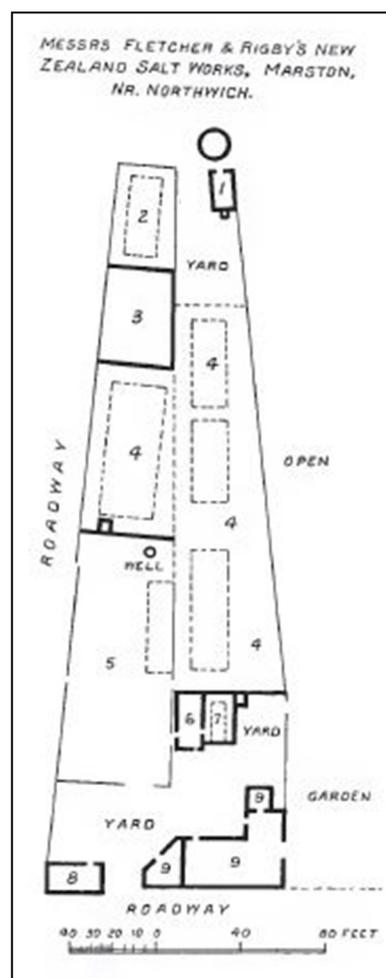
### ***New Zealand salt works and rock salt mine***

William Furnival bought the site in about 1828 and began to produce salt by his new patented process, which produced more salt for less money spent on fuel. He had originally adopted the process in Worcestershire where it proved successful. However, the competition was not welcomed by other salt manufacturers. A price war ensued in which other salt manufacturers sold their salt at a loss until he was forced out of business, selling the mine on the 1<sup>st</sup> September 1831.<sup>33</sup> It was recorded in the indenture as having 'two shafts into a mine and one brine shaft'. It continued to operate and was run by H Back until 1833 and after this it was run by William Gregory. It appears on the Marston Tithe map in 1846 as belonging to William Gregory. It is not, however, clear if it was operating during the intervening years.

It appears to have been reopened or begun to be reworked in 1869, and this is the date given by Campbell Calder for its origins.<sup>34</sup> It operated as a small mine, only just over 2 acres (0.8ha.) in size. It was known by a variety of guises including Marston Gregory's (Gregorie's) Mine; Greyacres; Fletcher

and Rigby's Mine; Johnson, Fletcher and Others'; Fletcher's Mine; and the Ollershaw Lane Mine.

By the 1870s when it was planned by Thomas Ward it was known as Fletcher & Rigby's New Zealand Salt Works (see 5.9). It formed a triangular land plot with a total of five or six open pans, a single storehouse; at the northern end of the site was a gasometer, whilst at the southern end was the engine house, rock house and a dwelling facing onto the roadway that is today known as The Avenue.



3.10: New Zealand Salt Works, Marston, sketch plan by Thomas Ward, 1870-1880s<sup>35</sup>

The mine was purchased by the Salt Union on the 21<sup>st</sup> July 1888, for the price of £6,500 from Johnson, Fletcher and Others.

<sup>33</sup> Calvert 1915, 657-669.

<sup>34</sup> Horton 1993, 47

<sup>35</sup> Calvert 1915, 699

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The Salt Union Inventory of Properties of 1908 <sup>36</sup> lists the following:

*Land and salt works containing 5 pans, storehouse, 2 loading stages etc, also dwelling house, stable etc, and mine, rock house, engine house etc. The works were dismantled in 1889. The house and stable are on subsiding ground but are in fair order and tenanted by Mr Rayner. The mine is filled with brine. The rock house remains but is in ruins. The engine house has been demolished.*

The mine was listed as flooded in 1908, and was out of use with the shafts filled in by 1920. There were two rock shafts and a brine shaft. Campbell Calder <sup>37</sup> notes that on 20 December 1920: 'S Pimlott began to fill up the New Zealand shafts. It only took 2 canal boats full of concrete rubble and rubbish from about the old rock house foundations to fill them up. The work was finished on 24 December.'

The site in 2014 forms part of a land plot used by Northwich Metals as a scrap yard.

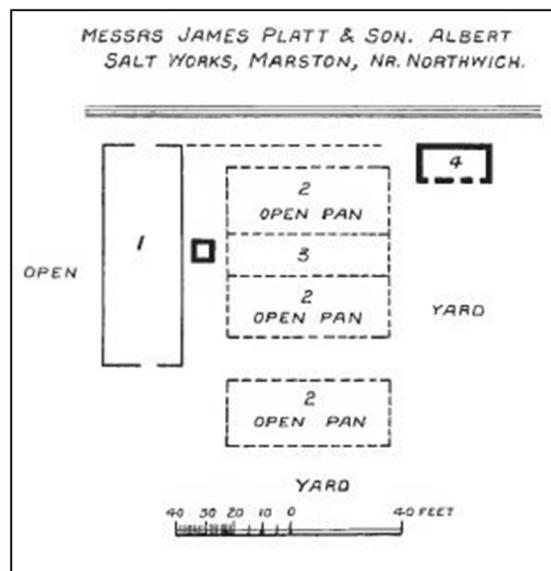
### **Crystal salt works and rock salt mine**

The Crystal Mine was located to the west of the Lion Salt Works in a now vacant land plot. It was a small mine of only about 2 acres (0.8ha.). It operated from c. 1850. The date of sinking come from a date stone, located at the works on the 19<sup>th</sup> February 1925. Calder noted that 'S Pimlott was pulling down the engine house and removed a stone in the wall dated 1850, in 1928 this was in the Coronation Garden'. <sup>38</sup>

Originally it was known as Fletcher's Marston Mine; Fletcher and Co; Johnson Fletcher's Mine. By the 1870s it was known as James Platt and Sons Albert Salt Works, having three open pans and a warehouse (see 5.7). It eventually came into the possession of the Thompson family and was also known as Thompson's Mine. <sup>39</sup>

It was sold to the Salt Union in 21st July 1888 as part of a lot with the New Zealand Mine (see below). At this time it was a rock salt mine known as the Crystal Mine. It contained:

Engine House, Rock House, land adjoining with salt works, coal yard and wharf, dwelling houses, garden lands, small gas works, railway sidings, the salt works included 3 pans, 1 warehouse, office etc.. and was known as the Albert Salt Works of James Platt. Bought for £6,700 on the 6<sup>th</sup> Oct 1888.



3.11: Crystal (Albert) Salt Works, Marston, sketch plan by Thomas Ward, 1870-1880s 40

By 1908 the Salt Union Inventory of Properties listed:

*Rock salt mine known as the Crystal mine, with engine house, rock house, land adjoining with salt works, coal yard and wharf, dwelling house, garden lands, small gas works, railway sidings. The salt works included three pans and a warehouse, office etc. It was known as the 'Albert Salt Works', of James Platt. Mine and shaft are in good order, buildings not in workable condition. Not been operated since formation of the company (in 1888). Dwelling house in fair order, salt pans and warehouse dismantled. Gas works in poor order and out of date. <sup>41</sup>*

The Crystal Mine, along with other mines, was used to store unwanted shell explosive, known as lyddite, during the First World War. This was still there when water broke into the mine and flooded it in 1920. All 10,418 boxes of picric acid stored in

<sup>36</sup> Salt Union 1908, 25, entry 91

<sup>37</sup> Calder 1921.

<sup>38</sup> Horton 1993, 50

<sup>39</sup> Calvert 1915

<sup>40</sup> Calvert 1915, 695

<sup>41</sup> Salt Union 1908, 25, entry 90

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the mine, (equal to 520,884lbs of explosive), were lost and are still down there to this day. The shafts were filled in 26<sup>th</sup> July 1920 and the 11<sup>th</sup> November 1920, and the engine house was pulled down in February 1925,<sup>42</sup>



**3.12:** The Crystal Cottage, the last remains of the Crystal Mine, dated 2014

The salt works and mine are not visible today. The area has seen partial subsidence. The mine manager's house known as Crystal Cottage and a small brick shed that was probably the mine weighbridge house still survives (5.8, above). According to Norman Eaton, it was '*Fred Burgess' house [Crystal Cottage], with outbuilding going up to the canal, he was born there in the late 1870s and only died a few years ago in the 90s.*'<sup>43</sup>

The Crystal Cottage was renovated in the late 1990s and is still occupied today. Around the buildings the area is pasture and gardens with no trace of the salt works.

### **Adelaide salt works and rock salt mine**

A rock salt mine was sunk in the bottom bed by Woodyatt and Eauchus in 1852. They sold it a year or so later to Messrs Verdin. The Verdins worked it under the name J Verdin and Sons (Rock Mine) and Verdin's Marston Mine until the formation of the Salt Union in 1888.

It was described as having twin shafts and a relief shaft and engine being added later. The mine was served by two shafts 112 yards (102m) deep. At the

foot of the shafts was an area known as the 'crystal ballroom', and dances were held in the vast cavern. Festoons of fairy lights were suspended from the mine roof, cascading sparkling reflections on the walls and pillars of salt, as the strains of a waltz, or a foxtrot, echoed through the chambers.<sup>44</sup>

*A chimney, 84 feet high, fell at the Adelaide salt works, Marston, in January 1879, causing a great deal of damage to adjoining buildings. The chimney had been out of perpendicular for some time. A team of men had been engaged to place the structure in its original position. They were using screw jacks when the giant chimney suddenly collapsed.*<sup>45</sup>

Around 1880 Verdin's introduced rock cutting machinery into the Adelaide mine; an 'Air Engine and Rock Cutter' made by Messrs. Walker Brothers (Wigan) Ltd being installed. The amount of salt shipped from the Adelaide mine in the years 1884–1886 was in the region of 12,500 tons (12,700 tonnes) a year.



**3.13:** A Salt Union locomotive shunting wagons by the pit head gear of the Adelaide mine. There is a canal arm immediately behind the locomotive. The covered 'sheds' over the pit head gear were to prevent rain water entering the mine and dissolving the rock salt.<sup>46</sup>

As with many of the Marston Salt Works this operated as both a rock and white salt works. The land for the salt works on the surface was leased in 1869<sup>47</sup> It developed rapidly in the following decade and was extensive by the time of the 1877

<sup>42</sup> Horton 1993, 52

<sup>43</sup> CRO LSW (not accessioned) Norman Eaton, oral history transcript, 1989.

<sup>44</sup> Lynch 2004, 43.

<sup>45</sup> Lynch 2004, 62.

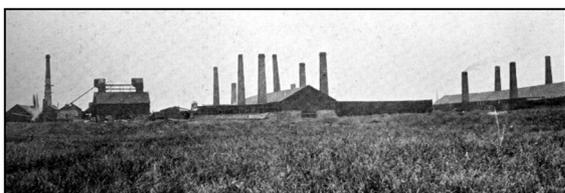
<sup>46</sup> CRO D6490, Salt Union photos

<sup>47</sup> Horton 1993, 52

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Ordnance Survey map. When it was sold to the Salt Union in 1888 it consisted of the following:

*47 salt pans, 2 brine shafts, 2 pumping engines and pump trees, 3 houses, 1 office, 1 storeroom, 1 sailmakers room, 7 boilers, 3 large salt warehouses, 2 salt elevators, 2 smithies containing 17 hearths, 1 fitter's room, 1 water reservoir, 1 wheelwright's shop, 1 saw mill shed and pit, large wagon shops, 1 pair of winding engines for the rock mine, 1 rock salt mine and 1 locomotive shed.*



**3.14:** Adelaide Works, Marston, facing north, the common pans are lined up either side of pitched roof storehouses, with the chimneys between. On the right hand side is the remains of the rock salt mine buildings.

<sup>48</sup>



**3.15:** The Adelaide Works in 1928. A bank of common pans (on the right), with attached store houses (on the left) and rows of chimneys. This was typical of larger works. <sup>49</sup>

As such, it was the largest salt works in the Marston and Wincham district at the time and appeared to be fully integrated. Ten years later it continued to be one of the most productive works for the Salt Union, although the number of open pans had almost halved. The Salt Union report of 1908 <sup>50</sup> lists the following:

*Lands, salt works etc. including 47 pans, 2 brine shafts with engines and pumps, 3 salt warehouses, dock yard, rock salt mine, with crushing mill and engines, 2 private canals, 3 houses etc. Of the 47 pans 23 have been dismantled. The remainder are in fair working order. One brine shaft known as the 'Old Helen' is of no use, the brine having left the shaft. The second shaft known as the 'Alexandra' is a working shaft and is in fair order. 2 of the houses are in good order, the 3rd is untenable. One warehouse has been dismantled with the pans referred to above. 2 warehouses are in good order and have a capacity of about 10,500 tons. The 2 canal branches are both in use. The rock mine is the only working mine in the Cheshire district and is in excellent order. A new rock mill was erected here 3 years ago.*

The mine worked until 11th March 1928, when it was flooded when water entered via one of the shafts (see post-industrial landscape below). The buildings were dismantled and the machinery saved as the ground sank and a new 'flash' formed. The loss of the Adelaide, abandoned in March 1928, was a blow to the Salt Union, as it was their last remaining source of rock salt. To replace it they reopened a closed mine at Meadowbank in Winsford, the source of today's rock salt.

Archaeological survey and excavation was conducted in 1993. Between the canal and the Adelaide Flash were the remains of massive rectangular foundation built from stone, brick and concrete, with a number of associated concrete structures clustered around them. Some of the concrete structures survived to a height of over 2m. These were associated with the location of the shaft for the mine. The line of an infilled canal arm was visible as waterlogged ground towards the south and the canal.

<sup>48</sup> Calvert 1915, 722

<sup>49</sup> CRO DIC-X-13, Salt Union Photos

<sup>50</sup> Salt Union 1908, 24.

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**3.16:** The pit head of the shaft to the rock salt mine is marked by a series of concrete blocks and protected by steel railings, these are located south-west of the Adelaide Flash

To the north-east of these remains were further remains of low linear earthworks and more structural remains although these were much smaller in scale. To the east of these remains and within open grassland were major rectangular earthworks within which were a number of parallel low walls. Only one substantial brick wall was visible on site.<sup>51</sup> Two trial trenches were excavated in the area.



**3.17:** The remains of brickwork can be seen sloping into the Adelaide Flash on its southern edge. Elsewhere the remains of the salt works survive as earthworks

The site is currently occupied by a local angling society. The remains of the buildings around the mine shaft are still visible. The earthworks between the Adelaide Flash and the canal are still visible on the ground today.

### ***Ollershaw Lane Salt Works***

The Ollershaw Lane Salt Works (also called the Brookdale Works) was situated immediately north of the Lion Salt Works on the opposite side of the canal.

It was originally begun as early as the 1830s when it was known as Newman's Works and first denoted on Bryant's Map of 1831. It is not clear if these were part of a 'white salt' works, a mine or merely store houses associated with the Charles W Newman's mine at the southern end of Marston (which later flooded and formed Neumann's Flash).



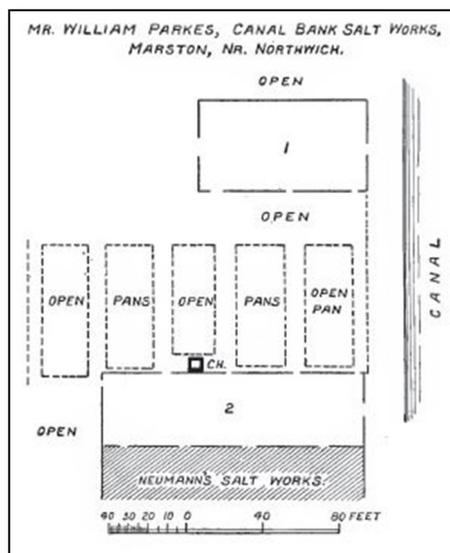
**3.18:** Marston and Wincham Townships, Bryant's Map of 1831

The tithe map of 2nd July 1846 is no clearer. It depicts several buildings and these are noted as store houses for Charles W Newman. The adjacent coal wharf was occupied by Samuel Wright. Of these the western wharf. It was part of the Marston Coal Wharf that dates back to the 18th century.

By the 1870s the adjacent plot to the east, appears to have also been developed. This was called the Canal Bank Salt Works and was owned by Mr William Parkes. It is depicted on a plan, reproduced by Calvert (see 5.15) with five open pans and two store houses. Neumann's (note the change in spelling) Works lay adjacent to the west.

<sup>51</sup> Horton 1993, 59

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3.19: Canal Bank Works, Marston, Sketch Plan by Thomas Ward, 1870-1880s<sup>52</sup>

The two works became amalgamated into the Ollershaw Lane Works. This is depicted on both 1<sup>st</sup> edition and 2<sup>nd</sup> edition Ordnance Survey Map (1877 and 1898 respectively). The works was served by both the Marston Branch of the railway and the canal, with two canal arms visible on the Cheshire Lines Survey map of 1893.

The inventory of property from 1908 suggests two salt works bought by the Salt Union in 1888. These were J H Padgett's Brookdale Works and William Parks' Ollershaw Lane Works. In total the lot contained lands with brine shaft, engine etc. Salt works containing 23 pans, 3 storehouses, workshops, graving dock (for servicing the narrow boats), 10 cottages, stable and coach house, manager's house etc. This suggests that the work was initially amalgamated from the two companies that existed side by side. J H Padgett's Brookdale Works was probably the earlier Neumann's Works on the west side of the site.<sup>53</sup> William Parkes, Ollershaw Lane Works was sold to the Salt Union on the 28th August 1888 for £2, 100 it had 15 salt pans, a house and a dock.

Less than 20 years later it was redundant. The 1908 Salt Union inventory of properties suggests that:

<sup>52</sup> Calvert 1915, 700

<sup>53</sup> Salt Union 1908, 25; entry 81

<sup>54</sup> Salt Union 1908, 25, entry 81.

*The whole of the works have been demolished except a few old buildings. The manager's house was converted into two cottages, making 12 cottages in all. This is a very poor class of property, 8 of the cottages being back to back houses.*<sup>54</sup>



3.20: The surviving cottages on the site of the Ollershaw Lane Works (left hand side). The photo is taken after the flooding of the Adelaide Mine and at the start of the formation of the separate flashes

The inventory also lists a separate property on Ollershaw Lane acquired from J Verdin and Sons and part of the Ollershaw Lane Works. This was close to Neumann's Flash and represented the remains of Neumann's Mine. It had been converted to a brine shaft referred to as 'Albert Brine Shaft' and had pumping engine and pumps. It is likely that they were extracting 'bastard brine' from the mine and this was being sent to various salt works in the area.<sup>55</sup>



3.21: The Ollershaw Lane Flash, with the Lion Salt Works in the background. Remains of the Ollershaw Lane salt

<sup>55</sup> The Albert Brine Shaft is referred to in the Albert Kinsey Thompson's diaries dating 1909-1937. This includes reference to the Salt Union extracting brine and sending it to Weston Point, via the Marbury pipeline.

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works are visible as earthworks between the flash and the canal

The Adelaide Mine was extended in the first three decades of the 20<sup>th</sup> century under Ollershaw Lane and the land beneath the Ollershaw Lane salt works. When the mine collapsed a large flash was formed (see 3.20: [The surviving cottages on the site of the Ollershaw Lane Works \(left hand side\)](#)). The photo is taken after the flooding of the Adelaide Mine and at the start of the formation of the separate flashes) taking the roadway with it. The Ollershaw Lane was built up on a causeway, separating the two flashes that exist today. The Ollershaw Lane Flash is on the eastern side of the road (see 3.21: [The Ollershaw Lane Flash, with the Lion Salt Works in the background](#)). Remains of the Ollershaw Lane salt works are visible as earthworks between the flash and the canal).

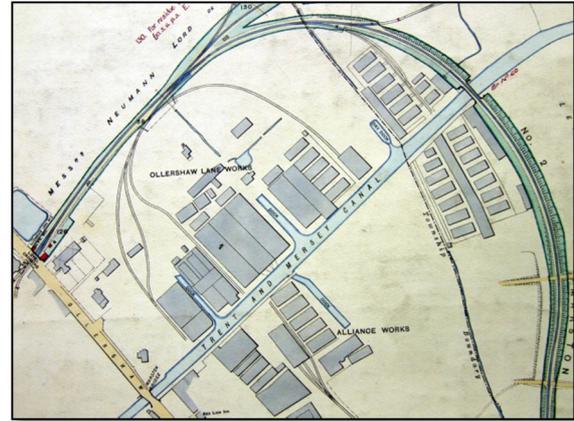
The site was surveyed and trial excavations were conducted in 1993. These revealed that although the northern side of the site had been destroyed by the collapse of the Adelaide Mine and the subsequent formation of the Adelaide Flash, the former remains of earthworks were visible up to 2m in height although these survived mostly as rubble remains. Two canal arms were well preserved on site, with sandstone walls of one partially visible.<sup>56</sup>

The site is currently occupied by a local angling society. The remains appear to have deteriorated over the last twenty years. However, some earthwork remains are still visible on the southern side of the flash before the canal. This includes waterlogged ground in the location of two canal arms and upstanding earth mounds in the location of former buildings. The easternmost buildings are now covered by a small copse.

### **Royal Oak Salt Works**

This was located either side of the canal, just east of the Marston/ Wincham township boundary. The southern half had 14 common pans, distributed evenly either side of a central wharf. Two buildings were situated adjacent to the Marston Branch of the Cheshire Lines Committee Railway, presumably salt stores. North of the canal were a further 14 common pans, these were distributed evenly

around a short tramway from the Marston Branch, again with two salt stores serving the buildings.<sup>57</sup> All the buildings had been removed by 1910,<sup>58</sup> again as part of the Salt Union closures.



3.22: Royal Oak works is in the top right corner, above and below the canal. The Ollershaw Lane and Alliance works can also be seen.<sup>59</sup>

Today the southern half of the site, south of the canal is part of a static caravan and park homes site. The north of the canal is occupied by industrial units.

### **Wincham Salt Works**

The Wincham Salt Works was a small to medium salt works distributed north of the canal either side of the bridge over the canal in three separate sites, two sites formed salt works, whilst the one in the middle was a Chemical Works. The works appears to have been an amalgamation of several small works.

The one just east of the canal was known as the Messrs Parkes Brothers Salt Works, drawn by Thomas Ward in the 1870s and wrongly noted in Marston (5.17). This depicts eight open pans, two pan houses and two stove houses, with a brine cistern adjacent.

By the time of the 1<sup>st</sup> edition Ordnance Survey map of 1877, this is referred to as the Wincham Salt Works (although the naming is somewhat confusing). This also shows the separate sites of the

<sup>56</sup> Horton 1993, 76

<sup>57</sup> CRO NPR 4459-8

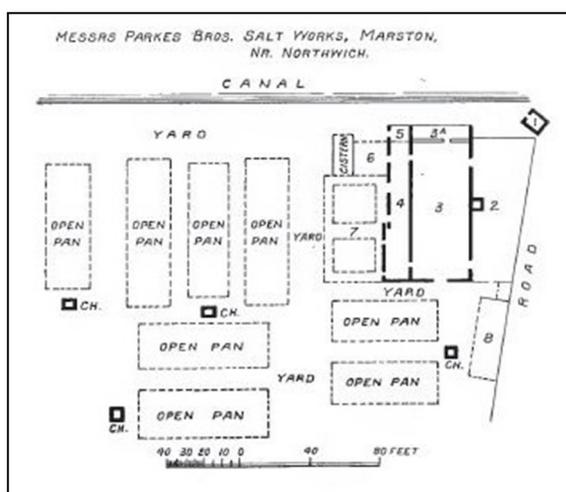
<sup>58</sup> Ordnance Survey 25-inch map, 1910.

<sup>59</sup> 1893 CRO NPR 4459-8 CHESHIRE LINES SURVEY

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chemical works and salt works the other side of the canal.

It was sold as part of a lot referred to as the Wincham Estate on the 6<sup>th</sup> October 1888 to the Salt Union. It consisted of 12 pans, 3 stove rooms and 4 storehouses. It was dismantled shortly after purchase and is recorded as such on the 1908 Inventory of Properties of the Salt Union. It is not depicted on the 2<sup>nd</sup> Edition Ordnance Survey map of 1898.



3.23: Parkes Bros, Salt Works, Marston, sketch by Thomas Ward, 1870s<sup>60</sup>

In 2014 the site was occupied by industrial factory units.

### **Wincham Patent Machinery Salt Works**

The Wincham Patent Machinery Salt Works was located between the Wincham Branch of the Northwich Salt Lines railway and the Trent and Mersey canal.

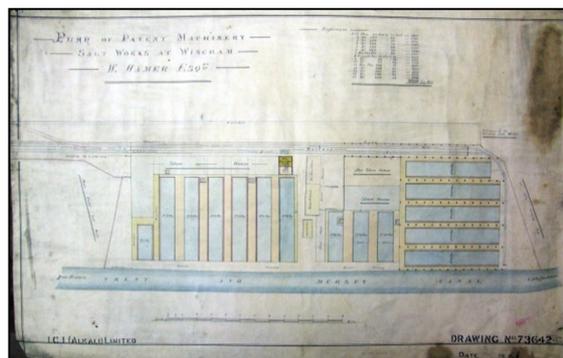
It consisted of ten pans,<sup>61</sup> which were later extended to 15 pans. Brine was pumped and stored in a cistern. It was first depicted on the 1<sup>st</sup> edition Ordnance Survey plan of 1877 as two large buildings, with no pans visible. A more detailed undated plan in the possession of the Salt Union (5.19) shows that these were in fact two covered

banks of pans, akin to a set of Butter or Dairy pans, as well as two covered fine pans with an attached stove house.

All the buildings were sold to the Salt Union in 1888. They do not appear on the 2<sup>nd</sup> edition Ordnance Survey map of 1898 and were demolished as part of the rationalisation of the salt works.<sup>62</sup>



3.24: The remains of the Wincham Patent Machinery works are in the foreground with the long line of pans of the Bridgefield and Victoria Salt Works behind<sup>63</sup>



3.25: An undated plan of the Wincham Patent machinery Works.<sup>64</sup>

### **Bridgefield and Victoria salt works**

This was a medium-sized works, probably opened in the 1860s. The site was originally split into two works, one of 18 pans in a line, north of the Wincham Branch of the Northwich Salt Lines railway and another of four banks of seven, seven, six and four, at the end of the line and also served by the canal. The works had become amalgamated

<sup>60</sup> Calvert 1915, 702

<sup>61</sup> CRO DIC/SU/4623/8.

<sup>62</sup> Ordnance Survey 25-inch map, 1898.

<sup>63</sup> Calvert 1915, 725

<sup>64</sup> CRO DIC-SU-4623-8

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into the Bridgefield and Victoria Works by the time of the 1<sup>st</sup> edition Ordnance Survey map of 1877.

There are no apparent salt stores, which would appear to indicate a series of common pans that delivered undried common salt in bulk. They would have been delivered directly into canal boats or railway wagons. The works had ceased and the buildings had been demolished by 1910.<sup>65</sup>

Originally, the Victoria Works was purchased by the Salt Union from J. Verdin and Son on the 6<sup>th</sup> October 1888. At the time it consisted of 41 pans, four warehouses, a brine shaft and office.

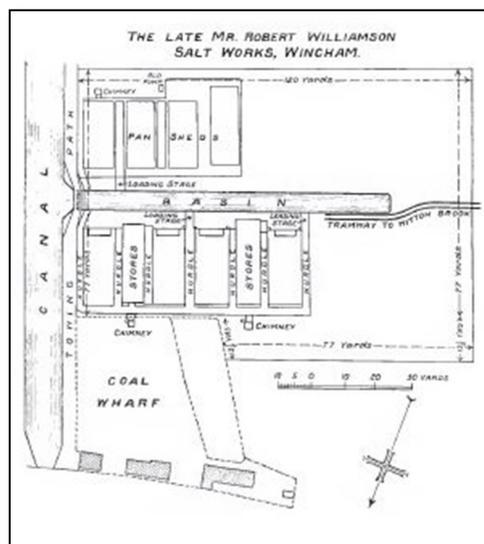
Twenty years later by the time of the Salt Union Inventory of Properties dated 1908, it was stated:

*...of the 41 pans, 20 had been cut up and the material used up on the works. The remaining 21 pans were in good order. These works supply a large portion of the fishery salt required in Northwich. An additional warehouse was built in 1906. 2 of the 4 warehouses were dismantled when the 20 pans were cut up. Total warehouse capacity was 6,700 tons. The original brine shaft collapsed and was filled up and the pumping plant removed about 1900. Brine was then supplied from the Alexandra shaft, a timbered shaft.*<sup>66</sup>

Transport to the works was via the canal, where a dry dock was situated, and the railway. The works were still intact in 1910.<sup>67</sup> The wharf timbers along the canal were still visible in 2014 and the site was occupied by Northwich Victoria's football ground.

### **Imperial Salt Works**

This was another small late-19th-century salt works along the Trent and Mersey canal. It probably originally began in the late 1860s or 1870s. The earliest plan is possibly one made by Thomas Ward, reproduced in Calvert (5.20) that shows the layout of the works and describes it as the Late Mr Robert Williamson, Salt Works, Wincham. This corresponds identically to that depicted on the 1<sup>st</sup> edition Ordnance Survey map of 1877 as the Imperial Salt Works.



3.26: Imperial (Robert Williamson) Salt Works, Wincham, Sketch Plan by Thomas Ward, 1870s<sup>68</sup>

The earlier plan depicts eight open pans and two store houses around a canal basin, south of the canal. A tramway is depicted passing towards Witton Brook, suggesting that originally this was used to load salt directly onto Weaver Flats that had sailed up through the flashes that formed the Witton Brook (a similar tramway was used by John Thompson on his Platt's Hill Mine).

By 1877 10 common and 5 fine pans and was served by the canal with a dock and a railroad or tramway to Northwich. By 1898 it was closed,<sup>69</sup> probably a victim of the Salt Union closures, but the dock was still marked on 1910 map.<sup>70</sup>

In 2014 the site was still unoccupied. Remains of the former salt pans were visible in undergrowth as a series of earthworks, although no access was possible to the site.

### **Wincham Hall salt works**

The Wincham Hall Salt Works was one of three small salt works dating to the last few years of the 19th century, located in a row adjacent to the Trent and Mersey canal, south-east of Wincham. It was opened around 1895 under a lease from the Wincham Hall Estate. The works was run by Alfred Jabez Thompson, the brother of Henry Ingram

<sup>65</sup> Ordnance Survey 25-inch map, 1910.

<sup>66</sup> Salt Union 1908, 22, entry 78

<sup>67</sup> Ordnance Survey 25-inch map, 1910.

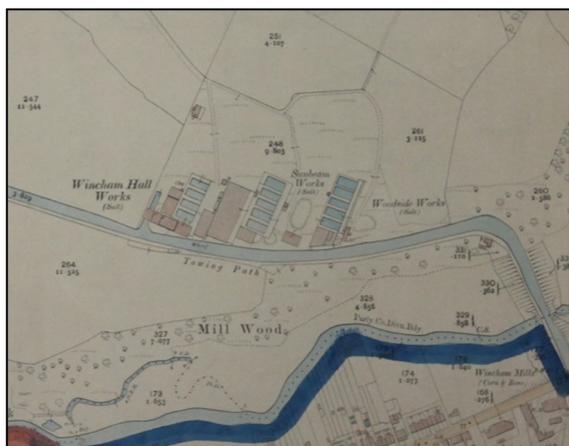
<sup>68</sup> Calvert 1915, 696

<sup>69</sup> Ordnance Survey 25-inch map, 1898.

<sup>70</sup> Ordnance Survey 25-inch map, 1910.

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Thompson from the late-19th century. It was not part of the Thompson family business, because the brothers had fallen out and they operated independently.



**3.27:** Wincham Hall Works, Sunbeam Works and Woodside Works marked on the 1910, 3<sup>rd</sup> edition Ordnance Survey map

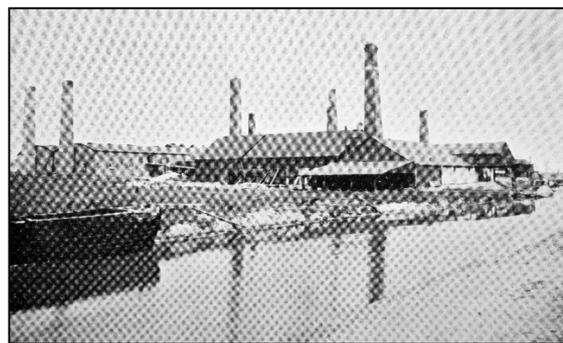


**3.28** The Wincham Hall Works is depicted on Ordnance Survey maps of the 1950s along with the adjacent Sunbeam Works. The Woodside Works had closed by this time.

In 1898 it had two banks of five pans and two pans, set around its own canal wharf.<sup>71</sup> By 1910, the works has only four pans around the canal wharf. The other pans have been converted to an undercover loading dock, which probably doubled as a salt store.<sup>72</sup> The absence of stove houses suggests that the Wincham Hall works was operating common pans, producing common salt, subsequently stored and delivered down the canal.

<sup>71</sup> Ordnance Survey 25-inch map, 1898.

<sup>72</sup> Ordnance Survey 25-inch map, 1910.



**3.29:** The Wincham Hall Works facing east. A branch from the canal went under the lean to roof to allow loading of salt to take place under cover<sup>73</sup>

The canal wharf was still visible in 2014 and the old loading dock continued to be used as a winding point to turn narrow boats.



**3.30:** The canal loading dock of the Wincham Salt Works in 2014

### ***Sunbeam salt works***

The adjacent plot was the Sunbeam Works, a separate site leased by the Thompson's and operated in conjunction with the Lion Salt Works from 1897. It is discussed in greater detail below.

### ***Woodside salt works***

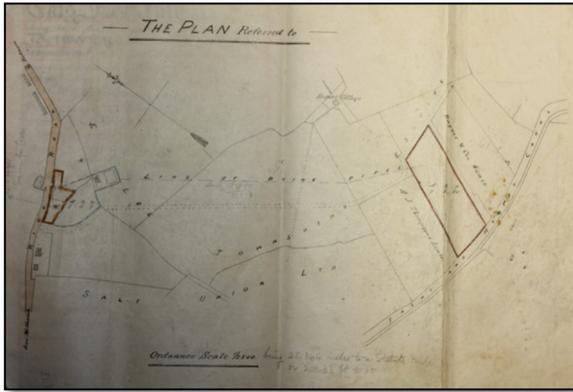
The Woodside salt works was the third of the three salt works in this location. It was one of three works on land outside the limits of the Salt Union mineral rights. It contained five common pans around a canal wharf.<sup>74</sup> It lay adjacent to the Thompson's Sunbeam Works site (see below). The works were

<sup>73</sup> Calvert 1915, 724

<sup>74</sup> Ordnance Survey 25-inch map, 1898.

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run by Raynor and Co. as shown on plan of the Thompsons' lease on the Sunbeam Works.<sup>75</sup>



**3.31:** Plan of the land plots of the Sunbeam Works lease dated 1912, with brine shaft location and pipe. Adjacent plots are marked A J Thompsons Works lease and Raynor & Cos Lease

The works had fallen out of use by the 1950s and there is no trace of their remains on the ground in 2014.

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<sup>75</sup> CRO LSW 90/412/70.