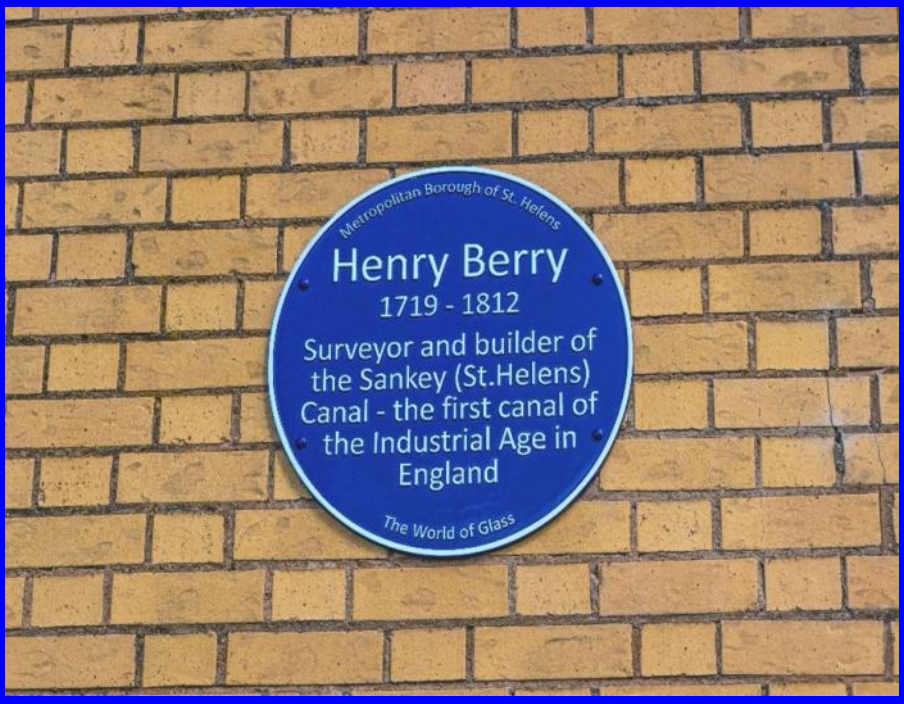
Sankey Canal Restoration Society

CANAL CUTTINGS

VOLUME 9 Number 11
Autumn 2021



Blue Plaque for Builder of the Sankey Navigation

SCARS' member Dr Barrie Pennington donated this English Heritage Blue Plaque to St Helens Council, and it has been installed at the World of Glass on the wall facing the Canal.

Sankey Canal Restoration Society

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Founded 1985

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Steve Parish (Warrington)
Paul McQuade (St. Helens)
Kevan Wainwright (Halton)

The Inland Waterways Association:
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Editor and Production: David Long
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CONTENTS

The Chairman's Report—from Colin Greenall

Now that the nights are drawing in, it's time to reflect on a summer of what might have been if it were not for the restrictions of the pandemic, even though there was some easing of the rules. We have not been unable to hold any work parties although we did manage to attend Newton Town Show on one of the wettest days of the summer.

Our committee meetings continue to be held via Zoom, which has proved to be something of boon in keeping us in contact with one another.

In this issue of 'Cuttings' we have articles about the 1980s restoration of Spike Island and Warrington's "New Cut", plus some amazing pictures of Blackbrook Culvert and all the usual features which I hope you will like.

Please remember this is your magazine for you to tell us what you would like to see in it, and for you to send in your stories and old photographs, it all adds to the interest of the Sankey Canal Story, so please do contribute.

I hope all our members enjoy the 2022 SCARS calendar sent out with the last issue of this magazine.

We have been working with St Helens Rotary on their new Heritage Trail which was to have been launched in October (2021) for the Rugby League World Cup, but due to many of the teams having to withdraw from the competition because of the coronavirus pandemic situation in their respective countries it has been postponed until 2022. We will use the time to fine tune the detail.

St Helens Rotary are now planning to apply for a £5 million grant from the National Heritage Lottery Fund to restore the section of canal through St Helens Town Centre, and create a water sports center on the section of canal between Corporation Street Bridge and Standish Street Crossing. This is indeed an exciting development, and we look forward to working with them to bring these plans to fruition.

Recently, a SCARS member donated an English Heritage Blue Plaque to St Helens Council to commemorate the life of Henry Berry the canal engineer who built the Sankey Canal,. This is located on the wall of the "World of Glass" facing the canal. (See front cover). More is to come with the donation of two Red Wheel Plaques which will be sited on Sankey Viaduct to commemorate the Liverpool & Manchester Railway and the Sankey Canal - the first passenger carrying railway crossing the first canal.

On a more disappointing note, the extension to Stanners Pool in Warrington has not done the prospects of restoring the canal any favours, as the spoil from the excavation is being tipped on the line of the infilled canal between Winwick Quay and Hulme lock and on a site adjacent to Sankey Brook which was also the course of the canal. (See picture in News Round-up).

St Helens'Town Deal Bid has received £25 million from the Government to take forward its plans to regenerate the town centre, which will include I mprovements to the canal waterfront and towpath.

Apologies for the late arrival of this issue, as before, holidays and family commitments seem to clash with our production dates of late. We will try to do better next time.

Best wishes,

Colin Greenall

Events This Summer

By Colin Greenall

Newton Town Show, Saturday 7th August

Following a day of torrential rain, I was half expecting a phone call to say that this event had been cancelled, however on the morning of Saturday 7th August five hardy SCARS volunteers turned out to erect the gazebos and display boards and spread out the bric-a-brac and books ready for the visitors to arrive.

The weather did its utmost to try and put people off attending but this time it failed. Following last years' cancelled event people were not going to be put off by a mere drop of rain and turned in their thousands to enjoy a day of fun events and entertainment. This included a funfair, classic car show, market stalls, brass bands - plus lots of other things for the

visitors to enjoy.

Cllr. Seve Gomez-Aspron said, "It is fantastic to see so many people out in Mesnes Park enjoying themselves".

Visitor numbers to our stand were good, and we enjoyed talking to people about the canal

News Round-Up Around the Boroughs

by Colin Greenall

WARRINGTON

Sankey Bridges Swing bridge: As reported in the last issue, the relief swing bridge at Sankey Bridges is to be removed due to its deteriorating condition. This is now planned to take place at the end of September or in early October. It is intended that an interpretation board will be placed nearby to tell the history of the bridge and surrounding area.

Water supply: Warrington Council are still seeking a viable solution to the supply of water for the canal and are working closely with Halton Council and the Environment Agency to come up with a plan that will both ease the flooding problems and at the same time supply the canal with an adequate supply of good quality water.

Stanners Pool Extension: Work has now commenced *(right)* on the excavation of the extension to Stanners Pool Community Fishing Amenity which is located to the north of Cromwell Avenue and alongside the line of the Sankey Canal. Unfortunately, the waste material from the excavation is being tipped along the line of the infilled canal between Winwick Quay and Hulme Lock *(right)* and also on a site adjacent to the Sankey Brook *(below—the brook flows behind the trees)*, which is also on the line of the canal, thus adding to the problems of future restoration of the canal.

HALTON

Spike Island—Clone Roses Concert: On the 24th July the Resurrection Concert took place to commemorate 30 years since the Stone Roses performed at one of the most memorable rock concerts ever to take place in the UK.

Swing Bridge: There has been no update as to when the new footbridge will be installed.

ST HELENS

Town Deal Fund: St Helens is to receive £25m from government to regenerate the Town Centre. Although the Council submitted a much larger bid for £38.5m, this is still a significant amount to work with toward achieve its ultimate goals.

Red Wheel Plaques: Our cover tells of Dr Barrie Pennington's donation of the Blue Plaque which has been installed at the World of Glass—he is also donating two National Transport Red Wheel Plaques to St Helens Council, once the Council grants Listed Building Consent and a license from Network Rail is given to locate them on the Earlestown Railway Viaduct where they will commemorate the world's first passenger carrying railway crossing England's first industrial canal.

World Heritage Status: Dr Pennington has also suggested to the Council that there should be an application World Heritage Status for the Sankey Viaduct area around the canal. Plans are in the early stages to carry this through.

St. Helens Town Centre Heritage Trail: As related in the Chairman's Notes, SCARS has been cooperating with St. Helens Rotary to create the Heritage Trail, and, following on from this, the Rotary are now looking to apply to the National Heritage Lottery Fund for a grant of £5m to restore the canal through the town centre and to develop a watersports centre on the Corporation Street to Standish Street section *(right).*

Chalon Way Car Park Site: Work continues tidying up the site. The raised viewing area *(left)* now has iron railings, and the surface is being leveled.

A Schoolboy's Visit to the Sankey in 1970

Canal (and more) Historian and Writer Joseph Boughey recalls the visit he made to the Sankey. His website may be found here: https://josephboughey.wordpress.com

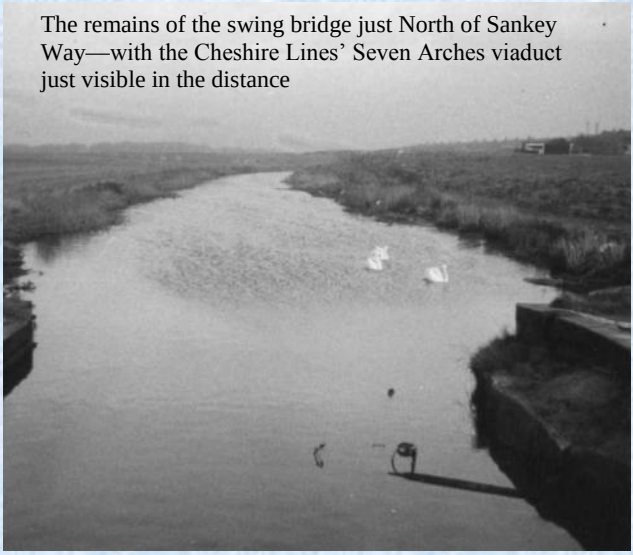
51 years ago, I read, in the June 1970 IWA magazine *Nor'Wester*, of plans by the National Coal Board to fill in the St Helens Canal between Earlestown and Sankey Bridges with colliery waste. I had earlier seen the Canal from the viaduct at Earlestown, from which it looked complete, and my mother and I had visited Newton Common Lock, above which the canal was a water channel, and noted various abandoned vessels below the Lock. *(Above—Harry Arnoild's 1960s image of those vessels).* This announcement spurred me, then a schoolboy, to walk the canal from Earlestown south to Sankey Bridges, and to try to record as much as possible before it was all destroyed. I think that it was in that autumn, in 1970, that I set out on the train from Liverpool Lime Street to Earlestown.

As far as Hulme Lock, the canal proved to be in water, and at first looked that it would have been navigable by small boats, as indeed it had been before the Marple Rally of 1970. The Sankey Sugar works was still there, but with a scour of material into the Canal. At Hey Lock, the balance beam had been broken off the left top gate, but the other remained complete and painted white. Around the bend below this, a culvert at Newton Brook had been removed, with the canal bed dammed on either side and a pipe to carry water across the divide. The swing bridges now looked inoperable, but at Alder Root was the only road overbridge, from 1954, looking very modern then; it had only been needed for a period of five years. From the top of this bridge, looking north, it was clear that water levels had been lowered.

There was a further swing bridge before Winwick Lock. At this point an incident occurred that provides my only detailed memory of that day. My companion and I were approached by a middle-aged man, in a white medical coat; we assumed he was a doctor. He asked us if we had seen a man who had escaped from the nearly Winwick mental hospital, and asked us to look out for him. I did wonder, and still do, at the sort of state of mind and body of the escaped man.

Below the Lock *(left)*, there was a scrap yard on the offside, and then cleared areas on either side of the canal where the M62 was under construction. A long straight stretch went past the two swing bridges, workshops and dry dock to Hulme Lock, which had lost the top offside balance beam, but was otherwise intact, with fixed windlasses on the bottom gates still in position. *(Right—by Harry Arnold, 1974)*

The section below to Bewsey Lock was partly drained, but it could be followed past the Sankey Brook crossing. After the swing bridge below Bewsey Lock the Canal looked navigable, as it does today, and we followed the towpath under the Seven Arches. South from here was the crossing that promoted closure - Sankey Way, which we crossed with some care and bravado - there was no footbridge then. We got to the former A57 bridge, still partly intact, and noted that the rails over the railway swing bridge beyond were now continuous. Here we left the canal here to walk to Warrington Bank Quay Station.



The remains of the swing bridge just North of Sankey Way—with the Cheshire Lines' Seven Arches viaduct just visible in the distance

I would return later in the 1970s, noting further draining; the NCB plan did not proceed, but the section from Winwick to Hulme Lock was filled in with domestic refuse. Looking at my pathetic monochrome snaps (taken with a 1962 instamatic camera) today, beyond the destruction of much of this section, there have been major changes in vegetation over 50 years, from what was rather bleak open agricultural land. The section below Bewsey has lost part of the towpath, with much more vegetation between the canal and Sankey Brook; the length beyond Sankey Way also has trees and bushes.

Carr Mill Repairs—*by Peter Keen*

Members will recall that the Canal and River Trust experienced problems with the valves which controlled water flow from Carr Mill. To carry out repair work it had been thought that the water level in the dam would have to be lowered, an expensive and time consuming process.

Instead, the CRT and its contractor pioneered the use of a remote-controlled tracked underwater vehicle which was capable of replacing the worn out valves in places which would be difficult or impossible for divers *(right).*

The first phase of the work involved the removal and replacement of an asbestos and concrete pipe and the installation of a new gauging weir, security grill, safety railings and steps. The robotic vehicle played a considerable part in the first of these tasks.

The next phase included cleaning out the stilling basin, repairing and resealing constriction joints on the spillway plus other access and safety improvements. Also within this phase were strengthening of the old spillway and its bridge to carry modern traffic.

Above: The damaged valve

Images from the New Civil Engineer *website* (newcivilengineer.com)

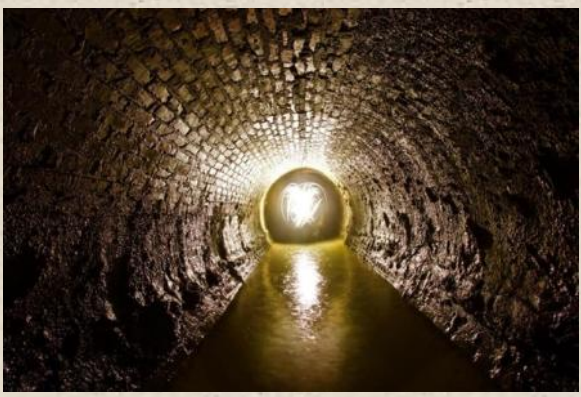
The main work was to change two of the valves which dated back to the 1860s for four new valves and their operating machinery, together with repairs to the valve house. Both valves were intended to be retained as heritage exhibits but, in the end only one could be traced to be displayed on the site *(below).*

Snaps of forgotten piece of history

This article is based on an item which appeared in "St. Helens Star" on the 19th of August 2021 and is here acknowledged by SCARS.

An intrepid wildlife photographer has captured a set of spooky pictures showing a forgotten piece of St. Helens past.
Paul Wilson was keen to photograph wildlife in Sankey Valley and began to venture along a tunnel built as part of the Sankey Valley development in the 1750's.
"The tunnel contains the original Black Brook and seems to have been forgotten about because it disappears under the road into a hidden tunnel," said Paul.
Paul estimates the tunnel is approximately 300-400 yards long and is certainly not to be entered by the ill equipped.
"I had to wear chest waders and wellies as it gets very deep in places," he added.
"I went in there when I was a child with my friends and its very scary-a bit like a Steven King movie!"
"I was actually looking for wildlife as I am an amateur wildlife photographer and I thought I would find bats and even mink down there."
The pictures were taken on a tripod with a timer and a 30second exposure because its pitch black in there and I swear someone whispered in my ear down there in the darkness!"

Below are some of the amazing photographs taken by Paul Wilson on his daring expedition into the dark tunnels of the Black Brook.
If any readers of this article have further stories or pictures of the tunnels around the area, please lets us know by email at colin.greenall@btinternet.com



St Helens Canal and Spike Island Reclamation Scheme 1981—1982

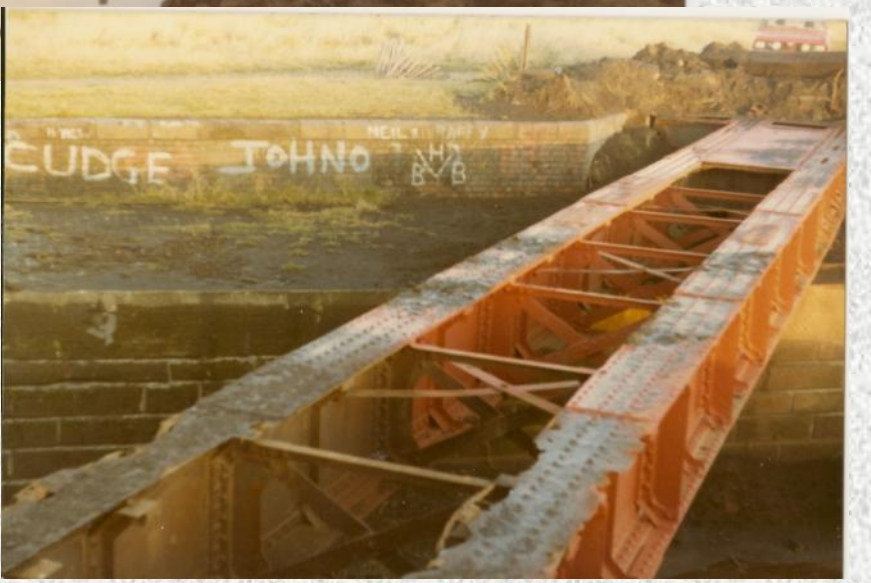
Recollection of the project by Barrie Old as the Site Agent for the Contractor, McTay Construction, for the contract build period. Based on his contract diary and personal diary.

During the summer of 1981, Cheshire County Council (CCC) as client for the scheme sent out tender documents for the refurbishment of a section of the St.Helens Canal from the River Mersey at Widnes to Fiddlers Ferry Power Station boundary including the reclamation of Spike Island and forming a water feature to feed the canal and the refurbishment of two bridges that spanned the canal namely "the Iron Bridge" and Carter House Lane Bridge.
At the Fiddlers Ferry end of the scheme, there was to be constructed a piled concrete weir across the width of the canal and at the Johnson's Lane culvert a new balance pipe and extension of the height of the wall to be constructed.
The construction company that I was employed with, McTay Construction from the Wirral, won the contract in September 1981 with a contract period of 6 months. Within this period new lock gates were being supplied by British Waterways and the old ones were to be removed and repaired at the same time enabling a working lock from the Mersey into/out of the canal on completion.
The attached photographs were taken by myself during the contract period.

Brief timeline of the contract September 1981-15th March 1982.
Early September, McTay Construction awarded the contract with a start date mid-October.
By 22nd September I have been assigned to be site agent and over the following week carried out a survey of the site including negotiating access at the East end via the CEGB Fiddlers Ferry Power Station (our only access point allowed in the documents).
Photographs 1-6 (28-09-81) show the state of the site prior to officially starting the contract.
Confirmation that British Waterways would supply & fit the lock gates, but McTay's will provide the plant and additional manpower plus the hardstanding for cranes etc at additional cost.
October 1st- Working drawings for the contract received from CCC. Carter House Bridge will have Greenheart timber for the main beams. It was also confirmed that the bridge would be deactivated as a swing bridge and be strapped down to its base.
The DOE have approved the scheme and costs with the CCC. Therefore, the contract documents can be issued to us.
19th October -official start date for the contract. We had the office compound set up on leased ground belonging to Whitfield & Brown on Upper Mersey Road across from the entrance to Spike Island. (Now a housing estate & West Bank Medical Centre).
Work commenced on "Iron Bridge" to see what condition it was in including the decking.
Later that week, earthworks operation started on Spike Island including the dock area.
By the end of October, work had started at the Fiddlers Ferry end both on Johnson's Lane culvert and infilling the canal with imported clay to construct the control weir. Also at the Lock end, removal of the pedestrian gangway over the locks.

Spike Island ‘Iron Bridge’ at the start of the contract

- stripped of deck and fittings



- shot-blasted and primed… and then declared to be beyond repair

November- Carter House Bridge -work starts on the refurbishment by removing the timbers. The position of the new weir was altered westward to avoid the water main from FFPS. Piling works to the west lock (for the launch ramp construction) commenced during the 1st week

Drainage works commenced from the Canal to the proposed holding pond (old dock). *(Right—the dock has not been used as stated)*

Drag line crane with grab removing silt from east lock in preparation for the lock gates etc.

10th-Decision was made to scrap the refurb of "Iron Bridge" due to extensive corrosion of the main beams and to proceed with "Greenheart" timber beams as the main bearers fixed on the bridge abutments. Weir control at this bridge was started - silt and debris being grabbed from canal bed.

By the end of the 2nd week, West lock piling works completed, and plant derigged for transportation to FFPS end.

Piling for the weir commenced during the 3rd week across the clay bund and completed by end of the week. At Carter House "greenheart" timber beams were placed across the canal & fixed in position. *(Left)* At the locks, west lock was being infilled between the piled area for the launch ramps to be constructed. At Johnson's Lane culvert, existing concrete wall (east side) was raised for new penstock equipment.

December- Despite the weather turning Arctic for the final 3 weeks of the year with severe frosts and snow, Carter House bridge works continued and was completed by the 3rd week. "Iron Bridge" rebuild commenced 2nd week with stop-logs completed in canal and beams lifted into position across the canal and decking completed by the Christmas shut down.

The launch ramps in the west lock being constructed including removal of the tail gates to the River Mersey. Concrete slab cast.

During the month, the FFPS control weir pile cap(wall) was completed, and the clay embankment being shaped up. Stone backfill placed on the east side of the weir wall. *(Right)*

15th December - the new lock gates were delivered to site from British Waterways Northwich depot and the east lock was continued to be desilted by grab crane.

16th December - the 4 lock gates were installed to the East Lock by British Waterways operatives assisted by a McTay gang in attendance with the 40 tonne crane handling the gates. The following day the balance beams were attached to the gates plus the paddle gearing sets were fixed by the BW operatives. By 18th December, the operation completed, and site was closed for the Christmas/New Year break.

1982 - the year started as '81 ended with severe frosts throughout the day and night thus hindering progress on the launch ramp brick paving though other works continued.

During January, work at the FFPS end continued with penstocks being installed at Johnson's Lane culvert, installing an 8"dia water outlet pipe from FFPS to the control weir, also erect & fix the handrail to the weir concrete wall. Surplus clay was removed from the canal & banks and transported off site.

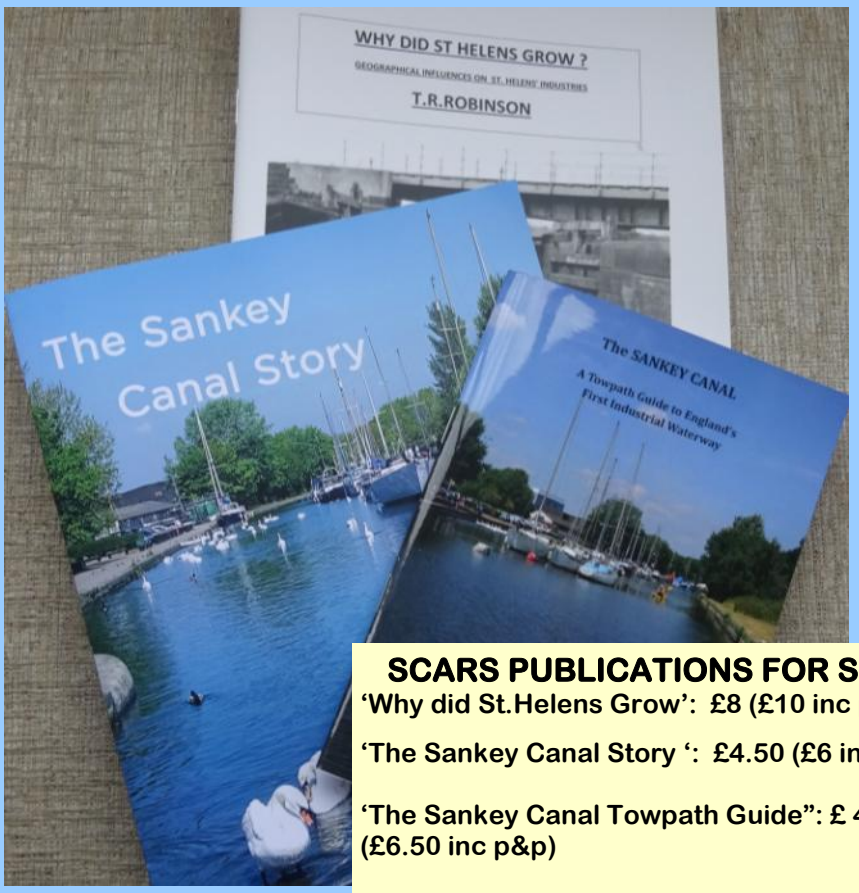
Carter House Bridge and "Iron Bridge" had the finishing touches completed and access road to "Iron Bridge" formed up with stone.

Spike Island works include pointing to the river wall carried out when weather allowed. Around the locks, foundations cast for the handrailing to be bolted onto. Control manholes for the water feature/canal being completed as well as the brick paving to the launch ramps as the frosts diminished and milder temperatures prevailed. Silt continued to be removed from both locks during the month.

February - pedestrian walkway across the East lock replaced into a permanent position. Launch ramp paving's continued to be hand laid. Concrete paths laid to edge of locks. Carter House Bridge barrier installed and following day, "Iron Bridge" access gate was positioned and locked.

Mid - February, FFPS commenced surcharging the canal via the new 8" pipe by the control weir. (Photo's 12-17)

On 12th March 1982, the contract was completed and officially handed over to CCC.



SCARS PUBLICATIONS FOR SALE

'Why did St.Helens Grow': £8 (£10 inc p&p)

'The Sankey Canal Story ': £4.50 (£6 inc p&p)

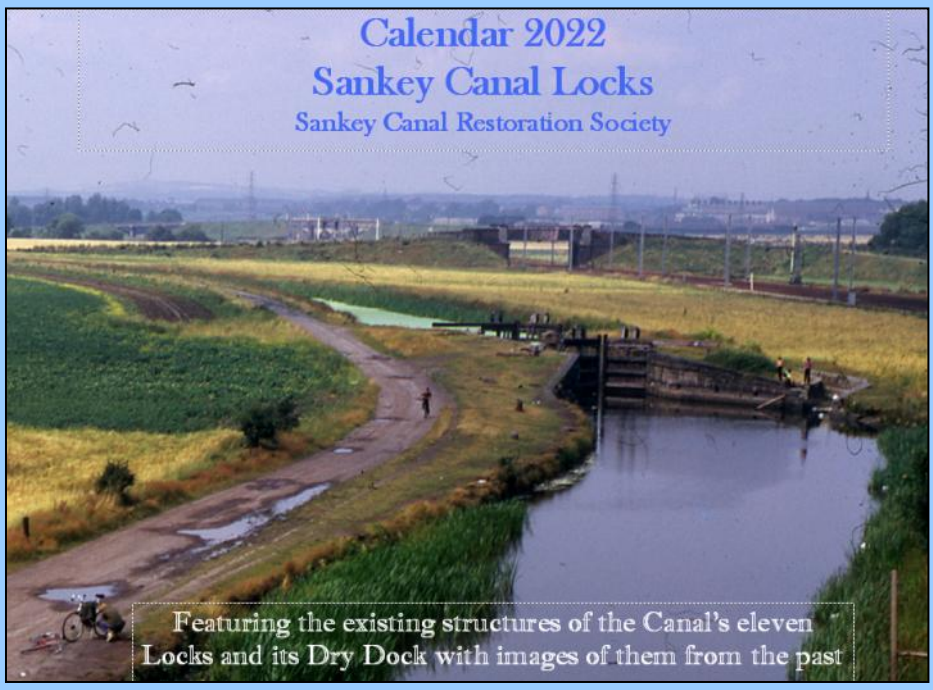
'The Sankey Canal Towpath Guide": £ 4.80 (£6.50 inc p&p)

Order from Colin Greenall:
16 Bleak Hill Road, Eccleston, St.Helens, WA10 4RW

WANTED–More Volunteers

Our Work Parties are perhaps our most visible volunteering opportunity—but there are other roles we need volunteers for. Maybe you could help out on our exhibition and sales stand when we attend events around the area from late Spring to early Autumn; or perhaps you have a personal skill, for instance in communications or the media, which you could put to use to help promote the Sankey and our Society—even if it's simply visiting the canal every now and again, taking photographs, and putting them up on our social media sites, or carrying out research into aspects of the canal's history, or of its associated communities or industries. But don't let yourself be limited by my imagination….
To offer your services, choose a contact from page 2 of this magazine.

Our Calendar for 2022



£5 + £1 postage

Members have already received a complimentary copy, but further copies may be purchased by contacting Colin Greenall, 16 Bleak Hill Road, Eccleston, St Helens WA10 4RW.

The Calendar features recently taken images of the Sankey's 11 Locks, plus the Winwick Dry Dock, as its main illustrations. These are supplemented by historic photographs of the same locks, most of which feature the canal cottages which once stood beside each lock.

The cover, above, is the dramatic image taken by Waterways World Editor Hugh Potter of the lock at Winwick, with the London-Glasgow railway running alongside, taken from the embankment of the M62 shortly before the canal was infilled in the mid-1970s.

Follow SCARS on any of the social media platforms and keep up-to-date on our activities and news. Find us on:

Facebook Sankey Canal Restoration Society

Twitter: Sankey Canal @scars567

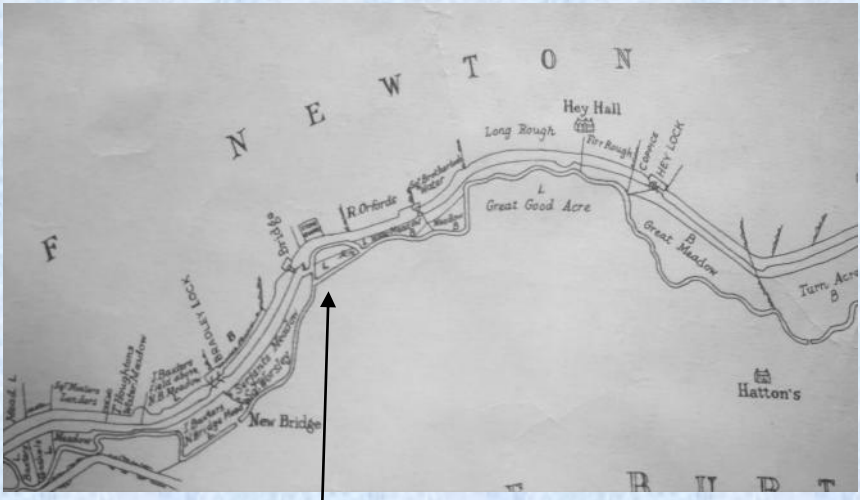
Instagram: Sankey Canal Restoration: sankeycanal1757

Sadly, we have still been unable to re-start our Work Parties as hoped, but are planning to do so in the coming months—look out for an announcement on our social media platforms

Was the Sankey Brook moved to make way for the Canal?

In our last issue we published the image below, sent by Gary Eaton, a SCARS Member from Warringon

Another Member, Jeff Round, has found evidence that the answer is **Yes!**

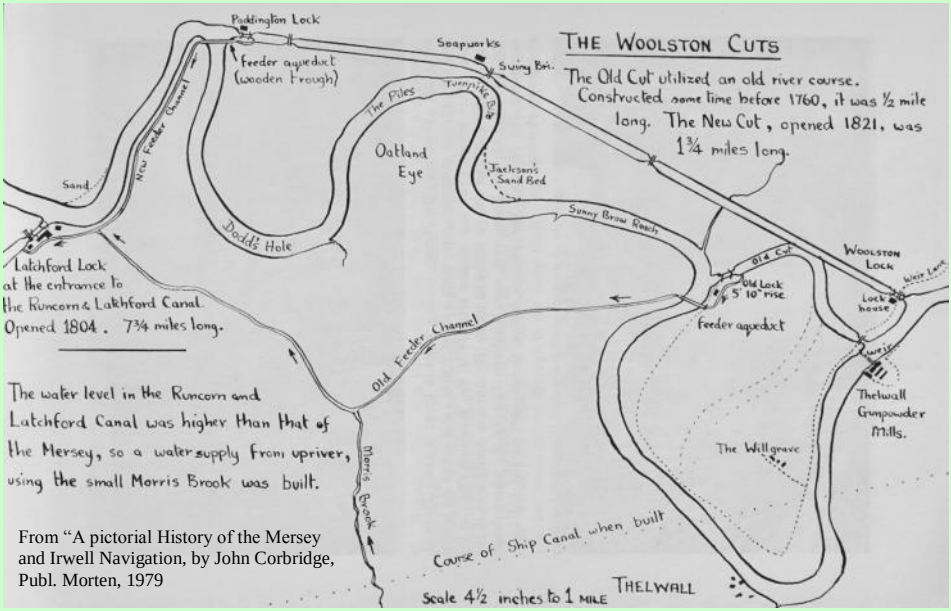


This section of the 1762 Survey of the Sankey Brook Navigation shows the upward curve of the Brook to the South of Bradley Swing Bridge which was straightened to make room for the canal as it passed beneath Red Bank to the East. Further realignments were made further South, where the image above shows the Brook taking a much more even line than shown on the plan.

Warrington`s New Cut Canal is 200 years old Celebrating The Last Remaining Significant Stretch of The Mersey and Irwell Navigation

Opened on 14th February 1821 at a cost of £20,000, the 2.7 kilometre long New Cut Canal between Woolston Lock, which nowadays is close to the Thelwall viaduct on the M6, and its downstream lock at Paddington. The Mersey and Irwell Navigation Company was one of the first river improvement schemes in the UK and its purpose was to link the medieval head of navigation in the tidal Mersey at Bank Quay in Warrington to the rapidly industrialising Manchester. However, the course of the river above Warrington had several tortuous meanders slowing and frequently grounding the barges or flats. Manchester in the C19th was to earn the nickname "Cottonopolis" with its world leading cotton industry but the flats also carried many other cargoes including, coal, foodstuffs, stone, slate, and timber.

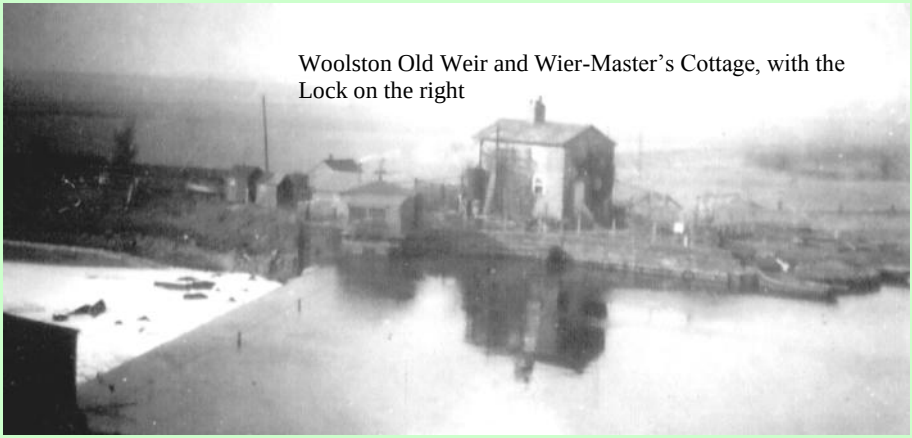
As trade developed the company embarked on progressive improvements to reduce journey times and to compete with its rival, the Bridgewater Canal, which ran from Runcorn into central Manchester, hence the building of new locks and canals. The first major series of river meanders to be overcome was situated to the east of Warrington in the Paddington and Woolston areas. In 1740 the first attempt to improve the navigation was the Woolston Old Cut of which little now remains. This short canal, less than a kilometre in length, only avoided two loops of the river and it was the bold New Cut that completed the removal of all loops within Warrington`s boundaries *(below).*



From "A pictorial History of the Mersey and Irwell Navigation, by John Corbridge, Publ. Morten, 1979

At the time of building the new canal, its owners were enjoying excellent profits and paying large dividends to shareholders and by 1825 they had invested £100,000 in ware-housing alone. The number of vessels using the navigation increased and the round-sided and flat-bottomed Mersey flats were ideally suited to the river, being stable and

able to carry 80tons of cargo. Not only did the flats trade on the navigations in the area but some had coastal capability and would frequently be seen off the North Wales coast and some were recorded as far away as Cornish ports on the China clay trade.
The cutting of the canal also had an influenced local architecture, and a wharf was built at Woolston at the end of Weir Lane where three workers cottages sat adjacent to the wharf, one of which was converted to a beer and cider house to cater for the bargees laid over for their next cargo. A red plaque on the towpath now marks the site of the wharf. Lock keepers' houses were built at Paddington and Woolston Lock with a weir masters house nearby but sadly only the original Paddington Lock keeper's house now remains. Water from the New Cut was taken by an aqueduct across the Mersey at Paddington



Woolston Old Weir and Wier-Master's Cottage, with the Lock on the right

Lock to feed the Latchford and Runcorn Canal at Manor Lock, a later development by the Mersey and Irwell to further eradicate delays for shipping on the tidal Mersey below Warrington.
Accidents including sinking's and drownings were not uncommon in the days of sail but one of the worst accidents happened on the defunct Woolston Cut when close to the 1755 built Powder Mill Lock. In 1855 a local man from nearby Martinscroft was killed and two others seriously injured in an explosion at the nearby Thelwall Gunpowder Mill, where production ceased immediately.
The building of the Manchester Ship Canal took much of the lie of the Mersey and Irwell Navigation and trade on the remaining parts progressively dwindled away until abandonment in the 1960`s.
The New Cut Canal was the M62 of the C19th and has a fascinating history and architecture, some of which can still be seen today. It is a tribute to Warrington Borough Council, the volunteers of the New Cut Trail group and all those involved that its tow-path is incredibly well used by local residents who have a safe walking and cycling route, especially in pandemic lockdowns."
The best access points to see the canal are from Weir Lane, Larkfield Avenue and Paddington Bank with good level tarmac surfacing throughout.
e-mail: info@newcuttrail.com
email: birding@newcuttrail.com
www.newcuttrail.com
face/bk: New Cut Heritage and Ecology Group

Sankey Canal & Sugar Refining - Part Four

By Mike Harrison

Refinery ancillary operations – a comparison between Sankey Sugar and Tate & Lyle's Love Lane refinery.

Filtration and Decolouring

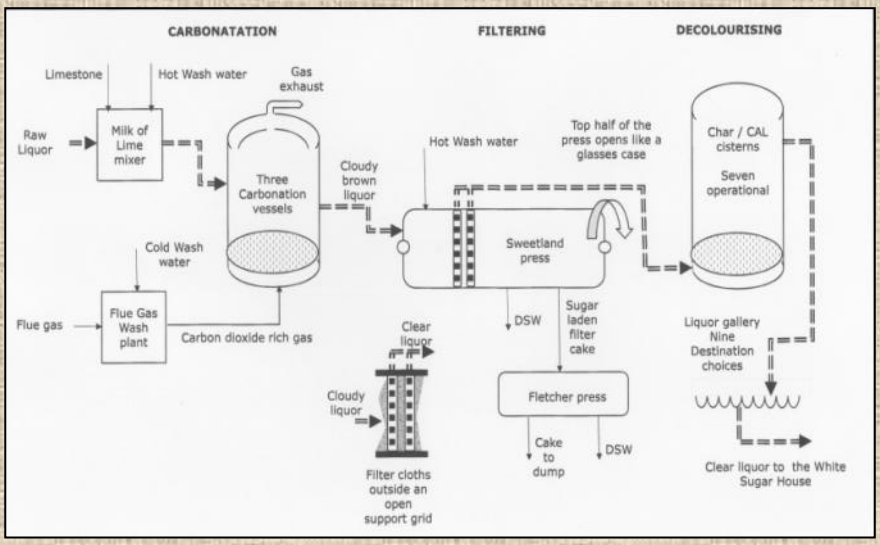
The main contaminant in the raw sugar crystal is wax in the form of minute particles and cane fragments. Removal of these particles is paramount in the crystal's purifying process. Unfortunately, wax blinds mechanical filters, so this problem is solved by using a pre-filtering process called CARBONATATION.

The incoming raw liquor is mixed with MILK OF LIME before being treated by Carbon dioxide gas. This process chemically wraps the wax particles in chalk, which enlarges the particles and allow the filters to work efficiently without blinding. The Carbon dioxide is sourced from the exhaust from the boiler house. The flue gas is washed and sent under pressure to one of three Carbonation vessels. The Carbonation line contains many large vessels that make-up the lime supply plant and the flue gas washing facility.

The cloudy liquor output from the Carbonation process is then ready for filtration. This process involves several big ancillary vessels and many Sweetland presses. The liquor passes into the body of the press, which is filled with numerous metal grills, each covered in a filter cloth and each with a clean brown liquor delivery pipe.

Periodically, the press is sweetened down, and the cake is washed off the outside of the filter elements to be retreated. After separating the cake from the Sweetland press' wash water, the latter is returned to the Melt House for reuse (no sugar loss). Fletcher presses take the cake and remove any remnant sugar, where again wash water is returned to the melt house as DSW. The cake is dumped when it is uneconomic to continue cleaning.

Next, the BROWN LIQUOR, which contains dissolved ash, and metals passes to the DECOLOURISING facility.



At Love Lane decolourisation was accomplished using two types of molecular sieve. The oldest type, that was probably used at Sankey Sugar is "Char", granulated animal bones, kilned like wood charcoal. The latest (1960s) is CAL a manufactured coal-based sieve. Both types of sieve are re-vivified by heating in an oxygen depleted atmosphere.
Each char cistern is 3.3m in diameter and 4.6m tall and holds 27te char. By its nature, the decolourisation process is discontinuous. So, to avoid hold-ups in the main sugar processing regime there are numerous char / Cal cisterns operating in parallel in addition to those on all the different sugar lines.
The effective part of the cycle – running liquor – is determined by the time needed before the sieve's colour saturation makes it unsuitable for further use. The operation of the char cisterns requires heavy labour-intensive procedures and uses a huge quantity of steam-heated boiling water (ultimately returned to the Dirty Sweet Water tank). Each cistern is non-operational for c40 hours, which comprises, sweetening off, digging out the hot washed char through a removable side hatch, (providing a free Sauna for the operatives) refilling with replacement char (from the top) and sweetening on.
A liquor gallery comprising nine troughs for the various product lines and cistern operations. Flexible hose pipe is manually operated to distribute output flows to their appropriate destination. Initially, fine liquor runs clear but after c10hrs gradually darkens, (as viewed expertly using a white china cup!) and turned to the 1st gran liquor (a lesser quality product) tank for further treatment.
Below: Products from the Sankey Sugar Works at Earlestown

Sankey Canal & Sugar Refining - Part Five

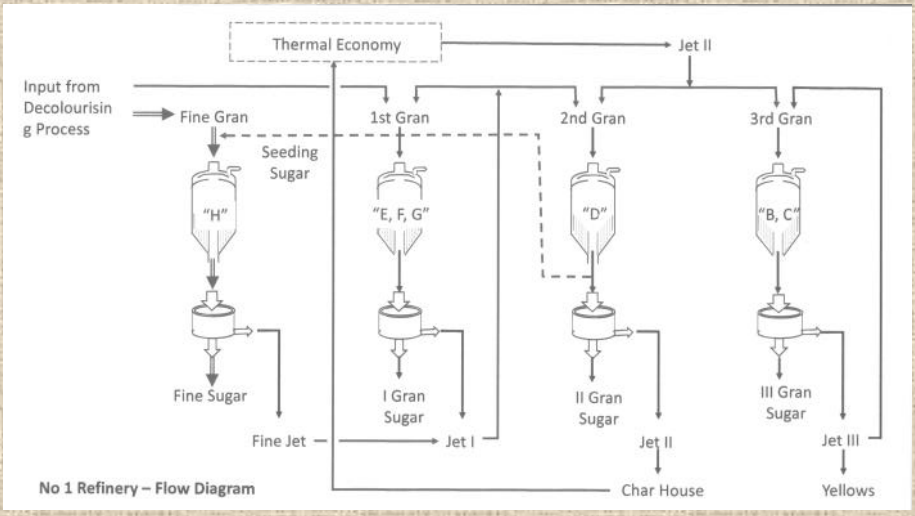
By Mike Harrison

White Sugar Refinery (particularly sugar crystals)

The object of the refinery is to crystallise the sucrose in the assorted liquors from the decolourising processes and produce products to the standards expected from the various inputs and recycling activities.

Fine liquor is used entirely to produce speciality sugars, ranging from fine gran, which source caster and finest grain sugars, mineral water gran, No2 gran (small crystals used for seeding), Preserving and Coffee crystals.

The refinery also supplies the "Yellows" processes (lesser streams) with sugar and impurities. These lines add considerably to the complexity of the processes and for completeness only indicated where necessary. In the flow diagram below the main liquor flow for sugar crystals is shown as a double line and is described further.



So far, I have described the perceived hardware and the relationship between Sankey Sugar and Tate and Lyle's L's Love Lane refinery. The crux of the sugar refining process is common to both refineries and uses skills developed by very few operatives, namely the Pan Men.

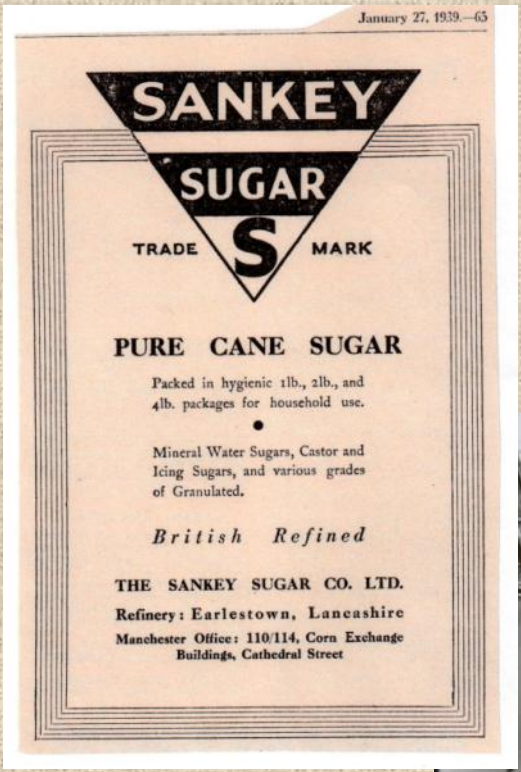
The plot below shows the saturation parameters within which the sugar crystals can grow uniformly without excess fines, etc. Boiling down controlled by vacuum pressure evaporates the water to cause saturation and later supersaturation of the liquor, divided into three zones.

- Metastable zone, where crystals will not form on their own but will grow on crystals surfaces already present.
- Intermediate zone, crystals added will initiate the formation of new crystals.
- Liable zone, crystals are formed whether other crystals are present or not.

Boiling sugar requires keeping the massecuite within the bounds of the sugar saturation, whilst not allowing it to overheat (colour darkens), nor for the crystallisation process to run-away with itself, thereby producing a product not to the standard required. As the pan fills with sugar laden liquor, the varying conditions demand the Pan Man's skill to maintain the contents of the pan within the limits highlighted.

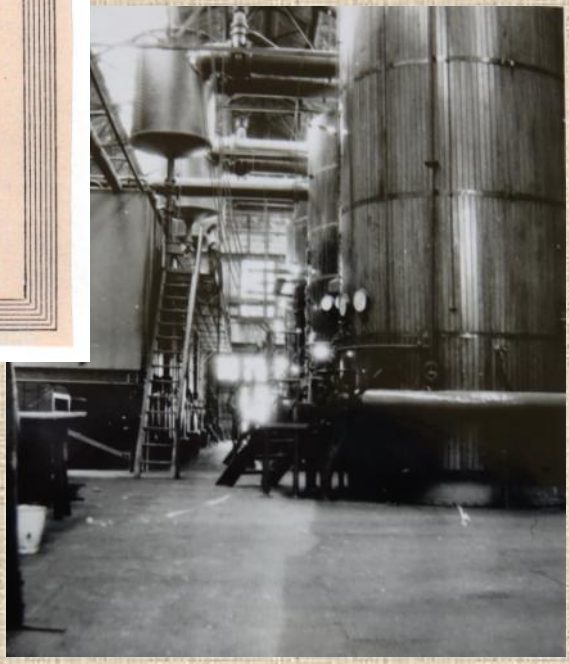
If the pan conditions fall too far into the Metastable region and too near the saturation curve, there are fewer opportunities for the crystals to grow. If the liquor reaches too high a temperature, then it may deteriorate, and fructose colouring occurs. If the temperature is too low, there is inability to boil off the water. Finally, excess fine crystals will form on their own, should the liquor approach the Labile zone.

The next part of this series will be a description of the boiling of a pan of fine liquor and the part played by the Pan Men, the refinery's elite operators.



Left: Newspaper advertisement for Sankey Sugar

Below: Inside the Sankey Sugar Works in the 1920s



Burslem Branch Canal Restoration—*by Peter Keen*

Given the obstacles to the Sankey's restoration hopes, we are always pleased to see another canal restoration society achieves progress despite the presence of major obstacles. Some time ago Scars Representatives attended a meeting of the Northern Canals Association based for the day in the Potteries.

As always the afternoon was taken up with a site visit to a local canal. In this case there was no canal, not because it had been filled in but because half of the canal had been physically removed to create an extensive excavation which was to act as an emergency reservoir in times of flood.

It would seem that the need for this water storage capacity no longer exists since the Volunteers of the Burslem Branch Canal, a short branch off the Trent and Mersey Canal are going ahead with new plans

First target in the reinstatement of the tow path, just half a mile long, which would allow access to the nearby town centre. A series of interpretation boards are to be erected to display the area's industrial heritage.

Over the years the canal bed has been filled in and sold off to a number of owners. This could cause problems in the future when restoration centres upon the canal but the positive attitude of the Burslem Branch volunteers, supported by the Burslem Port Trust with further interest from C.R.T., Stoke on Trent City Council, Stoke and Staffordshire Local Enterprise Partnership points to a very positive outcome.

The overall target is to create jobs (133) new canal-side homes (270), increased annual visitors (6,500) and up to 2399 boat movements per year, a worthwhile intention bringing benefits to a wide range of local people and visitors.

Below—an artist's impression of proposals for development along the line of the restored branch canal

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Mike Harrison - the Treasurer / Membership Secretary
4 Darvel Avenue, Garswood, Ashton-in-Makerfield, WN4 0UA

The Sankey Canal in 1972

This issue we start revealing a new collection of archive photographs, taken by Wilf Britch in 1972. Our thanks to him for sending these interesting images of a bygone time along the Sankey within the St Helens area

Two views taken from each side of the bridge carrying the St Helens—Liverpool rail line across the Sankey.

Above: The steam from 'The Hotties' on the opposite bank from what became the site of the recently demolished Chalon Way multi-story car park as seen from the East side of the bridge.

Below: The same area from the west side of the bridge.

Daglish's Foundry formerly occupied this site.