



THE TREVITHICK SOCIETY

KOWETHAS TREVITHICK
NEWSLETTER 182 WINTER 2018



Fig. 14: Rear view (with in-filled cylinder opening) of Morphett's 20-inch winding engine house at Burra Mine.

Reg. Charity
No. 1,159,639

NEW PROGRAMME SECRETARY

The Society has a new Programme Secretary. Tracy Elliott has handed the reigns over to Dave Crewes. The rest of Council would like to thank Tracy for organising a very varied and most interesting selection of lectures and field trips, since December 2015, for both the Liskeard and KEM branches. Thankfully Tracy is not stepping down from Council and instead has turned her talents to tending the Society website.

Although Dave has been a Council member for many years he is new to this position and would welcome any suggestions or details of any future speakers.

PLEASE NOTE!

At the last lecture evening held at King Edward Mine the consensus was that future meetings should start at 0730.

CNF

NEW MEMBERS

Mr L Rogers
Mr D Murphy
Mr C Yelland
Julian Settrington

St Ives
Penzance
Exeter
Yelverton

LETTER TO THE EDITOR

Dear Editor,

The latest mag and journal landed on my doormat with a satisfying thud this morning and made for enjoyable reading. The journal is quite a classy publication.

I couldn't help notice your comment re Flying Scotsman's visit and the claimant to be the first to do 100mph. It has been a bone of contention between the supporters of the GWR and LNER but what the journalists may not have picked up on is that Scotsman's 100mph was the first officially recorded run whereas Truro's dash happened to be recorded by a member of the public, admittedly a renowned train recorder, but one who lacked the specialist equipment to properly record passing times at mileposts.

Frankly, having driven both locos, albeit at much more modest speeds, I know which one I would prefer to chance my luck on, but there is no doubt about it, City of Truro and her sisters could certainly run, and even if she did not officially crack the magic ton, I would say that hers was the greater achievement by the men involved.

Ralph Ingham

Copy date for next newsletter:

March 15th 2019



Established 1935

LETTER TO THE EDITOR

Dear Editor,

In response to Keith Matthew's query in Newsletter 181, an early experimental installation of a telephone underground was in July 1877 when a trial was made at West Wheal Eliza, near St Austell. The experiment was considered very successful in connecting underground with the surface. Those underground said they could hear the whistle of an engine on surface, although whether this was a mine engine or something passing nearby of the Cornwall Railway is not clear.

The manager of West Wheal Eliza, and nearby Wheal Eliza Consols, was Richard Harris Williams who was an innovative manager, running a successful and profitable mine.

Michael Messenger

MRS ROZ CUNDICK

The Society is sorry to record the passing of Mrs Roz Cundick on 21st October who served on the Council of Management from 1992 -1998, the last two as Honorary Secretary and who, for the last few years, had lived near Marlborough, Wiltshire. Our thoughts are with Tony and the family at this sad time.

DUNCAN NICHOLSON

We are sorry to record the passing of Duncan Nicholson at 98 years of age on 26th November. Duncan was a great help in the Levant project with his steam experience and knowledge. His experience was also used at the Great Britain project at Bristol.

GEORGE WILSON



The announcement of the passing of our erstwhile Hon. Sec. on 3th November, aged 86, has been received with great sadness. George was very supportive of the Society and manned the show tent regularly with great enthusiasm, his sense of humour being a great bonus. George was born in Edinburgh, schooled at Jedburgh, Hawick and finally at Heriot Watt University, Edinburgh. On leaving education he was employed by EMI at Hayes before joining the RAF where he served in the Gulf War before finally becoming Wing Commander (Eng) at St. Mawgan. After his RAF service he worked for Ferranti and later as a private consultant on electronics. He loved rugby and played the game for Edinburgh Wanderers, London Scottish and the RAF. On retirement he moved back to Cornwall and joined a number of local organisations. In later years his love of walking took him around Cornwall on the coastal footpath. Our thoughts are with Janet and the family at this sad time.



AUSTRALIA'S LITTLE CORNWALL I: KAPUNDA AND BURRA

This past October a chance business trip to Adelaide enabled me to realise a long-held desire to visit the famous Cornish mine sites in South Australia – Kapunda, Burra, Moonta and Wallaroo. Doubtless, many members will have heard of these places and some will have made the pilgrimage themselves. But to my knowledge, the magnificent and quintessentially Cornish engine houses preserved on these mines have yet to grace the pages of the Newsletter. Given the addition of Burra and Moonta to Australia's National Heritage List in 2017 after a decade-long campaign, a brief review in tribute seems appropriate.

I was fortunate in having as my guide Greg Drew, whose knowledge of these sites is second to none and whose landmark book with Jack Connell first published in 1993 remains the definitive treatment on Cornish engines

in South Australia. Much of the following makes liberal use of his material and the informative brochures he has produced for the individual mines sites, the references for which are listed below. It also draws from information on the South Australian Mining History website (www.samininghistory.com), for which Greg is webmaster.

Copper mining in the area north of Adelaide and on the Yorke Peninsula across the St. Vincent Gulf (Fig. 1) began in the 1840s and was accompanied by a huge influx of Cornish miners and their families. With the expertise and technology they brought with them, South Australia had by 1850 become the world's third largest copper producer and the struggling economy of the fledgling colony was rescued from near-certain bankruptcy. Copper was first discovered in 1842 at Kapunda, some 80 km north of Adelaide, but the bonanza began when mining started in 1844 and an even larger copper deposit was discovered the following year at Burra, a further 80 km north. In both areas, low-grade,

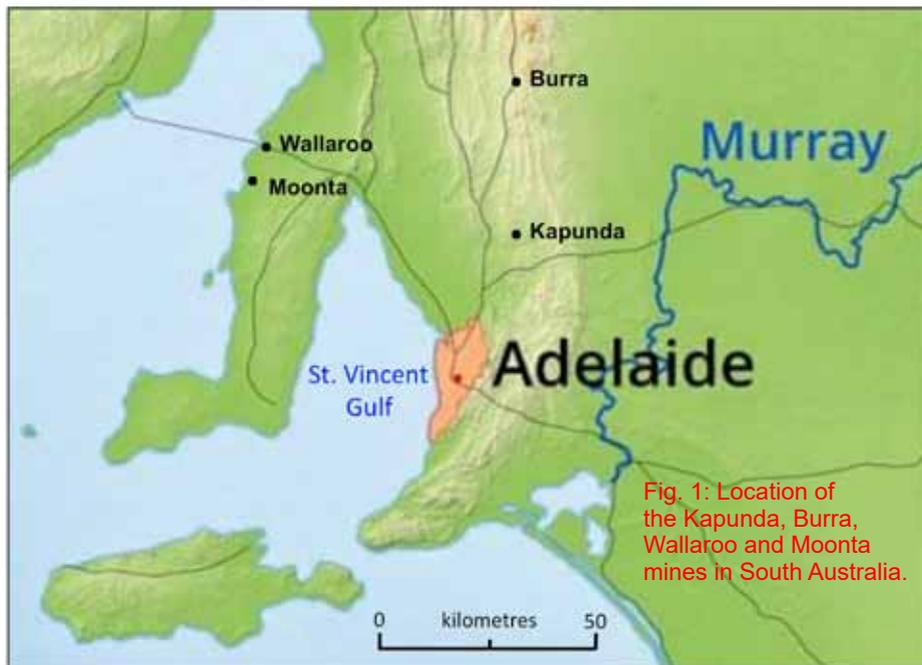


Fig. 1: Location of the Kapunda, Burra, Wallaroo and Moonta mines in South Australia.

stratabound chalcopyrite mineralisation occurred within shallow-water dolomitic siltstones of late Precambrian age. Likely of biogenic origin, the deposit had been enriched by near-surface oxidation to form high-grade deposits of copper carbonate and oxide. Mining at these two localities would continue for more than 30 years and was followed, a decade and a half after it started, by the discovery of even larger and longer-lived deposits on the Yorke Peninsula.

Kapunda Mine

The township of Kapunda, the entrance to which is graced by a 7-metre statue of Map Kernow (“son of Cornwall”) or Map the Miner in honour of its Cornish mining heritage (Fig. 2), is famed in South Australia as the birthplace of Australian copper mining. Copper ore was first discovered here in 1842 and by 1844 removal of the rich surface ore had given way to underground mining. The miners were overwhelmingly Cornish and by 1847 a second-hand, 30-inch, double-acting rotative beam engine (6-foot stroke),



Fig. 2:

The statue of Map Kernow (“son of Cornwall”), the tribute to the Cornish miner that greets visitors as they enter the township of Kapunda.

the first in Australia, had been purchased from Wheal Kitty in St. Agnes, where it had been used to drive stamps until offered for sale (as a 32-inch with two boilers) in May 1842. It was set to work at Kapunda, where it was known as the Draft engine, in an all-enclosed house in July 1848 and used to hoist, drive a crusher, and pump from several shafts by way of flat rods. Not surprisingly it was soon being overworked

Fig. 3: Detail of a panoramic photograph of Kapunda Mine taken by Henry Davis in ca. 1875 showing the 36-inch Bull engine house and rising main beneath the tall shears. The larger house beyond and to the left is that of the all-enclosed 30-inch winding engine. The boiler houses, capstan and possibly the mine store (with skylight) lie to the right (State Library of South Australia, photo B 7347, courtesy Greg Drew).

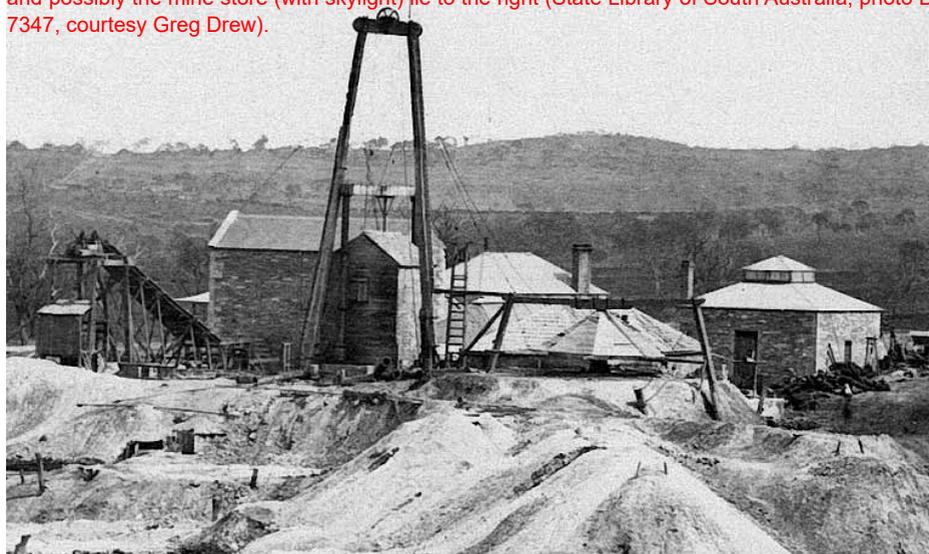
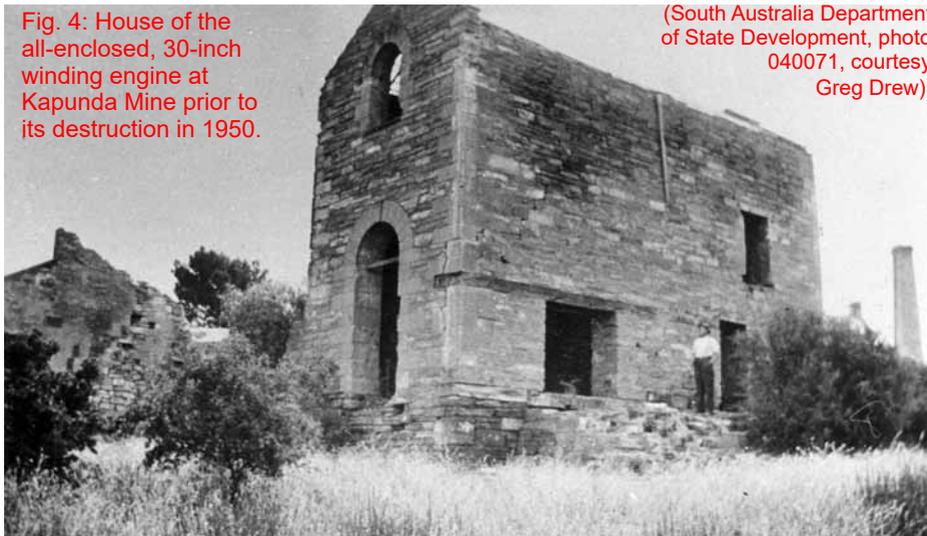


Fig. 4: House of the all-enclosed, 30-inch winding engine at Kapunda Mine prior to its destruction in 1950.

(South Australia Department of State Development, photo 040071, courtesy Greg Drew).



and, in 1850, a 36-inch Bull engine (spelt Buhl at Kapunda) built by Harvey and Co. in 1849 was purchased from Tungkillo Mine, some 60 km to the south. Acquired for the purpose of pumping, it started work in March 1851 (Fig. 3).

The high-grade (~25%) ore was initially shipped to Swansea for smelting, while the low-grade ore was stockpiled. But in 1849 the first smelter was established on site and the material shipped to Swansea was, from then on, high-grade regulus. In 1853, loss of manpower to the Victoria gold rush caused a hiatus in mining that was to last until 1855. But the mine developed rapidly thereafter, reaching peak production of over 4000 tons of dressed ore in 1857. A rail link was established to Adelaide in 1860 and the mine reached peak employment of 338 people in 1862. Following heavy rain in 1860, however, subsidence occurred around the Draft engine that necessitated its removal, and in 1861 it was re-erected (as the Buhl winding engine) in a new all-enclosed house a short distance west of the Bull engine. Set to work in June 1862, it continued to drive a crusher and used the separate stack of the Bull engine to serve its two boilers. The engine house (Fig. 4) was demolished for stone in March 1950.

In 1863, the mine saw its first loss as the rich ore became exhausted and, following a change to near-surface working under new management in 1865, it was re-equipped with a Henderson plant for the treatment of low-grade ore and re-started as an open-pit mine in 1867. But the process proved uneconomic and, following a fall in copper prices in 1877, the mine closed in 1878 having reached a depth of 80 fathoms (146 m). The two engines continued to work until the mine's closure and were purchased by Moonta Mine when they were offered for sale (together with five small horizontal engines installed in 1867) in May 1879. Total production until 1878 amounted to almost 13,500 tons of copper metal, with a further 433 tons being produced by intermittent work that continued above the water table until 1912.

Little remains in the way of standing structures on the mine site today, which is dominated by the barren area where open-pit operations and later near-surface work were carried out. The Bull engine shaft is open, adjacent to which are the mountings and pit of the balance bob, but the engine house was demolished when the engine was taken out. Its separate stack, however, still stands and the base of the all-enclosed winding

engine house (with interior condenser pit and paired flywheel slots), boiler house (built across the rear for two boilers), crusher house, and masonry support for the winding drum (vertical), were excavated in 2015-16 (Figs. 5 and 6). The count house, likely built in 1859, survives a short distance SW of the excavated house of the winding engine.

Burra Mine

Mining at Burra began in September 1845 and within two years the mine had paid its first dividend. By 1850 it was the largest metalliferous mine in Australia, and by 1851, 80,000 tons of copper ore had been produced. Following a hiatus in activity in 1852-55 caused by the Victoria gold rush, employment peaked at just over 1200 in 1859. For more than 20 years it was worked under the management of Capt. Henry Roach (formerly at Tresavean Mine,

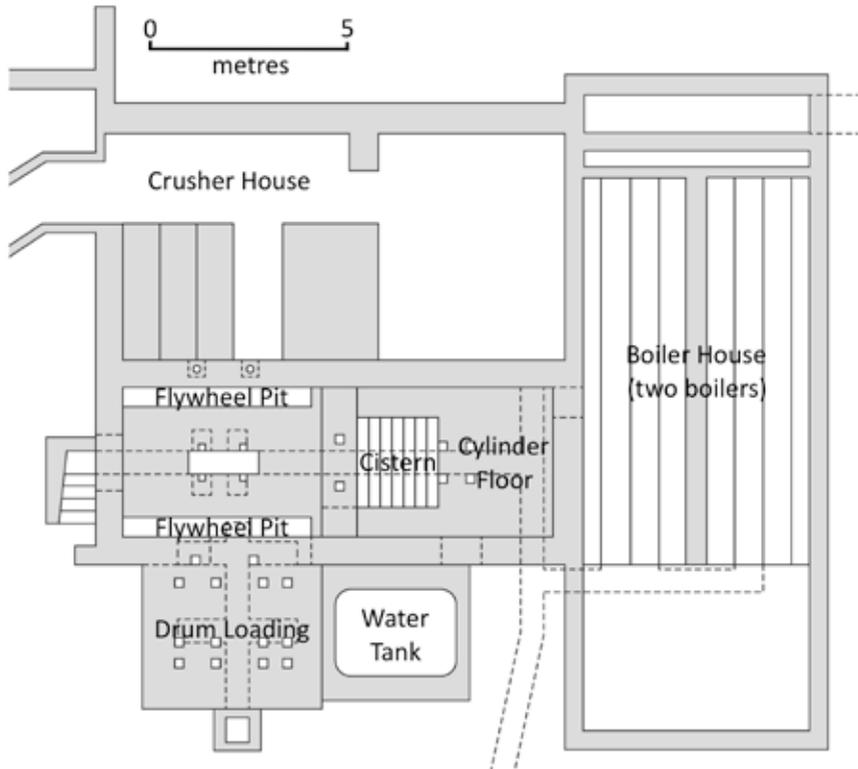
near Redruth), eventually reaching a depth of 100 fathoms (183 m). But in 1861 production started to fall off and, following the onset of losses in 1864, the mine was closed in 1867 to be restructured as an open pit. Open-pit operations started in 1870 and continued until the mine's final closure in 1877. Altogether the mine produced some 50,000 tons of copper metal from 700,000 tons of ore, which was initially shipped to Swansea until smelting facilities were established on site in 1849. More recently, the mine was reopened as an open pit in 1971-81, during which time a further 24,000 tons of copper metal were recovered from some 2 million tons of ore. It is the large, partially flooded open pit created at this time that dominates the mine site today (see Fig. 14 on front cover).

To operate the mine and cope with its significant water problem, six beam engines, each built by Williams' Perran Foundry, were imported from Cornwall



Fig. 5: Excavated base of the all-enclosed, 30-inch winding engine at Kapunda Mine showing the house of its two boilers (foreground), crusher house (right), and cylinder platform of the engine house (left) with its interior condenser pit covered by a flat grating.

Fig. 6: Plan by Greg Drew (with annotations) of the excavated 30-inch winding engine at Kapunda Mine, showing locations of the boiler house for two boilers (right), crusher house (top left), all-enclosed engine house with slots for two flywheels (centre left) and support for vertical winding drum (bottom left).



and hauled the 160 km or so to Burra by bullocks. The first, a 50-inch pumping engine, was erected on Roach's shaft in 1849. This was followed by a 30-inch crusher erected alongside in 1851, an 80-inch pumping engine (11 ft by 10 ft stroke) erected on nearby Schneider's shaft in 1852, Peacock's 30-inch winding engine erected in 1858, and Morphet's 80-inch pumping engine and 20-inch whim erected in 1860 and 1861, respectively.

The houses of two of these engines, Morphet's pumping engine and whim (Fig. 7), survive at the mine site along with Graves engine house, which was intended for Schneider's engine although this was never installed. The base of a ca. 22-inch horizontal winding engine (4-foot stroke) erected in 1874 to

drive the then new dressing machinery also survives. Roach's engine stopped work in 1852 and was dismantled after the erection of Schneider's engine. It was sold to neighbouring Bon Accord Mine in 1859. The crusher engine also stopped work in 1852 but was restarted in 1855 only to be transferred to the company's Karkulto Mine, some 20 km due south of Burra, the following year. Schneider's engine was likewise idle in 1852-55 and ceased work in 1862 to cut costs. It was removed and its house dismantled in 1868 for re-erection at Graves shaft, but while the engine house was built, the engine was never installed and was eventually sold for scrap in 1916. Peacock's engine was ordered soon after the crusher engine as a duplicate and was on site in 1850. But eight years would



Fig. 7: Houses of Morphett's 80-inch pumping engine (left) and 20-inch whim (right) at Burra Mine. Stack to rear is that of a haulage engine erected in 1876.

elapse before it was set to work, winding by flat rope and chain from several shafts including Peacock's and Roach's. In 1870 it was adapted to haul trucks up an inclined tramway from the open pit, and in 1876 it was reconfigured to operate flat rods for pumping. It was sold for scrap in 1916 and its house demolished in 1972 to make way for the expanding open pit. Its separate stack was rebuilt at the entrance to the mine site the same year.

Morphett's pumping engine

The house of Morphett's 80-inch pumping engine (11 ft by 10 ft stroke) forms the centrepiece of the mine site (Fig. 8), from which trails have been laid out to the whim, the engine pool (which lies a short distance to the NW) and Graves engine house to the NNW. The engine arrived at the mine in 1859 after a two-month haul from Port Adelaide, the engine house having been completed the previous year. The new shaft was positioned so as to drain the entire mine and provide water to power various waterwheel-driven

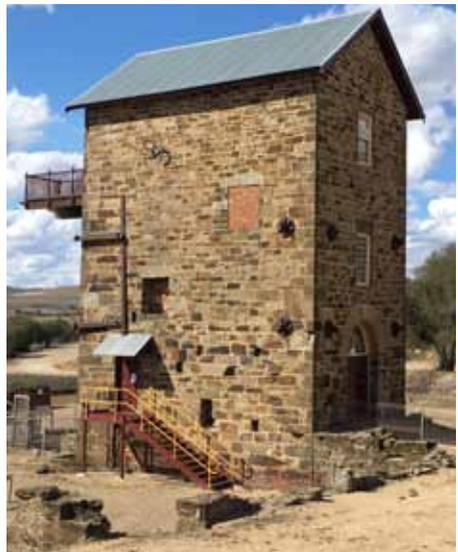


Fig. 8: House of Morphett's 80-inch pumping engine at Burra Mine showing the boiler house door, steam inlet and drain. In the foreground is the base of the boiler house.

Fig. 9: Morphett's 80-inch pumping engine and 20-inch whim (and their shared boiler house) at Burra Mine in ca. 1904. Johnny Green, the Burra miners' mascot on top of the shears now stands atop the repositioned stack of Peacock's engine at the entrance to the mine site (State Library of South Australia, photo PRG 733/507)



machinery, including a crusher, stamps and saw mill. The shaft having been connected to the mine, the engine was set to work in March 1860. By 1862, it had eclipsed Schneider's engine, which was stopped. It ceased work in 1868 ahead of the switch to open-pit operations and was restarted in 1870, the water now being directed to the new ore dressing tower, which survives 150 m to the NE. To boost supply, a second rising main was added in 1872, which increased flow to more than 3 million gallons per day. In 1877 the pump rod broke, which cracked the piston and severed the spring beams. However, with the cylinder fortunately unscathed, the damage was repaired. But the engine was stopped for the last time just a few months later, by which time the shaft had reached a depth of 100 fathoms (183 m). The engine remained in its house (Fig. 9) until removed for scrap in 1916.

Despite a fire in 1925 that gutted the engine house and the top of the shaft, the house was reconstructed, re-roofed and internally refurbished in 1985 as part of South Australia's 150th anniversary celebrations. It now serves



Fig. 10: Lower chamber (with cylinder bedstones) and middle chamber floor of the refurbished house of Morphett's pumping engine at Burra Mine with a working model occupying the cylinder position.

as an interpretative centre (Fig. 10) with access through the cylinder opening and plug door. Outside, the walls of the boiler house (for 4 and later 6 boilers) and an extant boiler lie alongside to the east (Fig. 11), from which a flue can be traced to the base of a square stack on the hillside to the north. The boiler house served both the pumping engine and whim. The top of the open shaft was also re-timbered as part of the restoration and the balance bob pit and balance beam slot were excavated. Some of the pitwork retrieved from the shaft at the start of the 1971-81 reworking lies scattered about the shaft mouth (Fig. 12).



Fig. 11: Cornish boiler in the extension to the boiler house of Morphett's pumping engine at Burra Mine added when Morphett's whim was erected in 1861.

Morphett's winding engine

Morphett's 20-inch winding engine was set to work serving Hector's shaft to the SE (the direction the house faces) in October 1861. The house was erected just west of the pumping engine (and almost 100 m from the shaft) so that the two engines could share the latter's boiler house (Fig. 13), to which two boilers were added. The engine was used for winding until 1868 and the change-over to open-pit operations, after which (from 1870) it powered new dressing machinery, some 170 m to the SW. It did so from the rear of the house by way of an endless wire rope operated from a shaft driven by a bevel gear on the flywheel, an arrangement that required the cylinder opening to be in-filled (Fig. 14 on front cover). The engine ceased work in 1874 when a new horizontal engine was installed for this purpose. It was probably scrapped along with the other engines in 1916.

The engine house still contains two of its four cylinder bolts and, without an adjacent boiler house, was well lit with four brick-arched window openings on the lower of its two floors. Outside, the loadings for the flywheel and winding drum are well preserved, an extant crankshaft lies nearby (see Fig. 11), and the base of the supports for the wire ropeway can be seen at the rear. The house was consolidated in 1987.



Fig. 12: Sections of rising main, clack box and cistern recovered from the shaft of Morphett's pumping engine at Burra Mine.

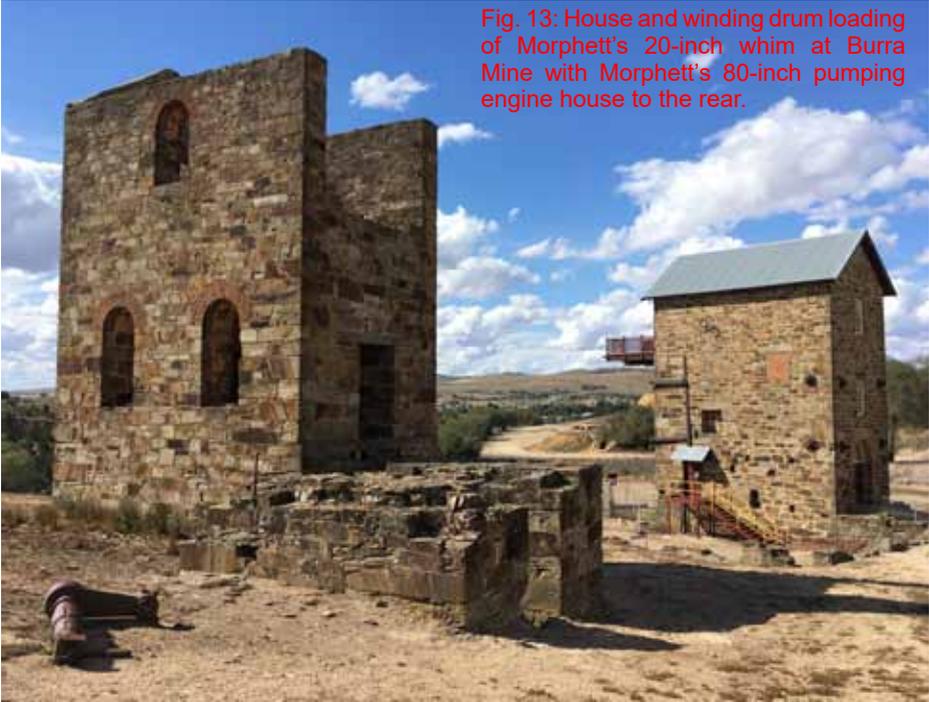


Fig. 13: House and winding drum loading of Morphett's 20-inch whim at Burra Mine with Morphett's 80-inch pumping engine house to the rear.

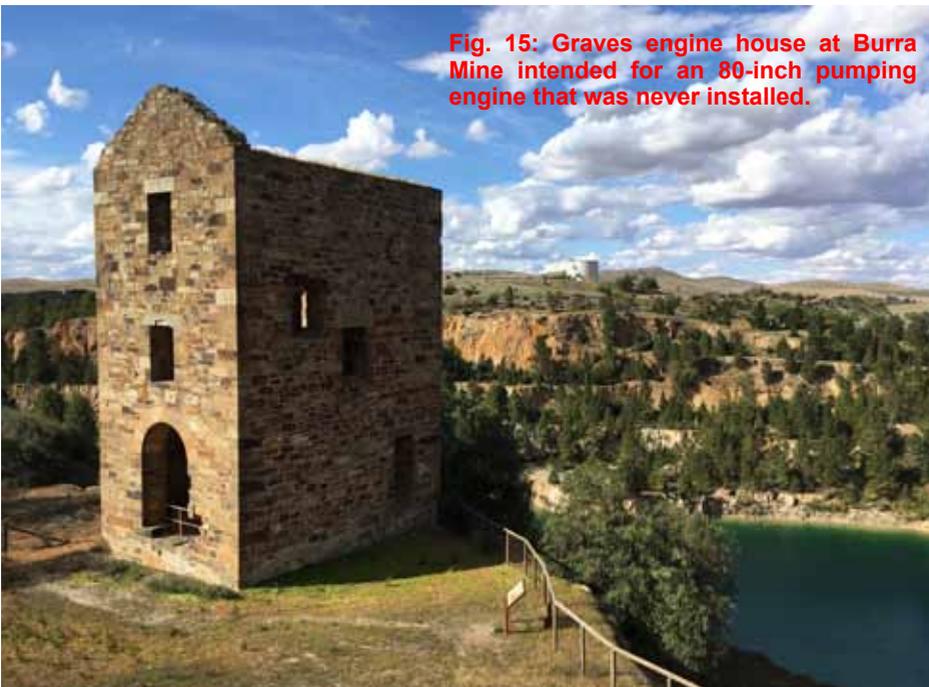


Fig. 15: Graves engine house at Burra Mine intended for an 80-inch pumping engine that was never installed.

Graves engine house

The series of misguided decisions that resulted in the building of Graves engine house (Fig. 15), in which no engine was ever erected, began in 1867. In that year the company decided it needed additional pumping capacity in order to contend with the increased water encountered at depth and so, despite the mine's economic situation and the availability of Schneider's 80, a third 80-inch engine was ordered from Perran Foundry. Soon after this was done, however, the mine was closed as it transitioned to open-pit operations and the order was cancelled, although the Perran Foundry catalogue for 1870 (which lists the making of three 80-inch engines for Burra Mine) suggests it was built. Instead,

it was belatedly decided to make use of Schneider's engine, which had stood idle on the mine since 1862. The new Perran engine had been intended for a shaft being sunk some 400 m NW of Morphett's. So in 1868, Schneider's engine was dismantled along with its house and the house was rebuilt beside the new shaft, which was by then 50 fathoms (91 m) deep. But in 1869, before the boiler house was built, the plan to erect Schneider's 80 was abandoned and the house has remained empty ever since.

Damian Nance

References

- Drew, G.J. and Connell, J.E., 2012. *Cornish Beam Engines in South Australian Mines*. Special Publication No.9, Department of Mines and Energy, South Australia, 191 p.
- Drew, G.J., 2015. *Discovering Historic Burra*. National Trust of SA Burra Burra Branch and Regional Council of Goyder, Burra, Australia, 68 p.
- Drew, G.J., 2017. *Discovering Historic Kapunda*. Kapunda & Light Tourism Inc., Kapunda, Australia, 64 p.
- Drew, G.J., 2017. *Captain Bagot's Mine – the Kapunda Mine 1844-1916*. Light Regional Council, Kapunda, Australia, 192 p.

2019 AGM

PLEASE NOTE

The A.G.M. 2019 will be held at the Penmorvah Manor Hotel, Budock Water, Falmouth on Saturday May 11th. 2019.

Accommodation is available at a special rate but members must book this individually. The hotel can be contacted on 01326 250277 or www.penmorvah.co.uk/offers

The first site visit for the weekend will be Falmouth Docks on Friday afternoon at 2pm. Other visits during the weekend are still being finalised and full details will be in the next newsletter. Queries other than accommodation can hopefully be solved by speaking to the Society Chatline 01209 716811

MAINTENANCE AND RESTORATION WORK TO LEVANT WHIM

For the past 2 years any maintenance/restoration work carried out on the Levant Beam Engine has required a written report. The reports are then forwarded to the National Trust Archives, in both paper and digital format, to form part of a permanent record of the engine.

So far the author has produced 24 of these reports which the National Trust has granted permission for the Trevithick Society to reproduce in its Newsletters.

Most of the work in these reports involve the condenser and its air pump which is sited below the floor.

All the large parts were machined by Robin Statham (proprietor of Chapel Engineering at Leedstown together with his fellow engineers), Dale Henwood, Peter Stedman and Sam Trounson.

John Woodward

THE AIR PUMP



The original rod was made from 2 1/8" diameter (53.9) wrought iron with an upset lower end to allow the machining of a taper to locate it onto the piston casting. It broke in 2009 and was replaced by 55mm diameter bright mild steel rod, welded to the stump of the old one.



When the air piston was removed, the mild steel was badly wasted near the piston due to constant immersion in water. A new lower rod made out of 2 1/4" diameter. (57.1) 316 grade stainless steel.

A special 2 1/4" diameter clamp was made for holding the rod.



On removal, the upper half of the two part wedge was missing. The lower part was holding the rods together with the help of some spacers located inside of the lower female end of the top rod.

New two part wedge made out of mild steel and fitted with 1/4" brass split pin as a second stop. The weight of the wedge 0.6kg.



The bronze casting is thought to be original but so badly worn as to be not repairable. The mild steel taper wedge was a modern replacement. It was so badly corroded that it had become loose and was found lying on top of the piston.

A new bronze casting has been made, together with a new bronze taper wedge to secure it on to the lower shaft. The wedge is held in place by two brass split pins. The weight of casting and wedge is 8.9kg.

The original casting and foundry pattern have been saved on site.



The piston junk ring is a modern mild steel replacement. Original would have been either cast iron or wrought iron. Badly corroded overall with three damaged holes tapped 1/2" Whit for jacking screws.

Ring shot blast and painted with two pack polyurethane. Holes re-tapped M14. The weight of junk ring is 8.9kg.

Note - 2nd badly corroded mild steel replacement currently residing on racking in the fan housing building.



The piston casting is an original iron casting which was shot blast. The stump of the lower rod was machined out and the internal taper bored back to original dimensions. A taper bronze bush was then fitted which was then counter bored on the bottom end to take a split collar on the new stainless steel shaft. Drilled and tapped M20 to lock onto shaft.

On shot blasting of casting, it was discovered that the original method of securing the casting to the shaft taper was by means of a 5/8" diameter wrought iron cross pin riveted in place. The weight of



Because the wear in the bore is tapered, two ½" thick plastic rings of a smaller outside diameter were placed top and bottom and the loops of rope reduced to three.



The air pump gland casting. This iron casting has been bushed on the bolt holes with mild steel. The brass bush for clamping the rope stuffing was bored to give a .040" clearance on the new 2¼" diameter shaft. Casting not repainted.

the piston casting is 53.8kg. Total weight of piston assembly 70kg.

It was painted in two pack polyurethane paint.

Four loops of inch sq. stuffing rope make up the piston rings. Incorrect black graphite steam type had been used which was replaced by the correct white P.T.F.E. based cold water rope.





The original valve casting that has been bushed. Brass bush bored to give .040" clearance on new stainless steel shaft. Casting not repainted.

Incorrect graphite based steam stuffing fitted which was replaced with 1" sq. white P.T.F.E. based cold water rope.

The top cross pin mounted on the beam was found to be OK for roundness. The piston rod top bearing had .006" wear sideways and .038" wear up and down. Brass top half and bronze bottom. .020" taken off both faces, soldered together and re-bored to give .002" clearance. The bearing was then split and cleaned up. On refitting a .040" thicker mild steel plate fitted between bearing and retaining wedge.

The iron casting contains a 3/8" (9.52mm) thick brass sleeve with a bore of 1513/16".

The brass liner has considerable wear consisting of about 4mm on the west (door side) and about 8mm on the east (engine side). The wear tapers out top and bottom over a distance of 2 1/2". To remove the air piston from the bore, the junk ring is first removed then the square rope packing which act as piston rings has to be removed from within the bore to allow clearance over the wear taper. No work done to cylinder.

John Woodward

ANY IDEAS?



The box above is of wooden construction reinforced with metal strip and has a leather carrying handle on the top side. The circular equipment on the left is a clockwork apparatus with large winding key, shown in picture. It would appear that a disc or a disposable paper disc could be attached to the front of circular section as a brass pointer is evident, mounted vertically and pointing down. Also on the clockwork section is a small lever to enable the system to be speeded up or slowed as required similar to that seen on clocks. Behind the large brass plate on the right hand side is a series of sections in a circular format numbered 0 – 8 but with number 7 blanked off. These numbers are on the inside of each compartment and, in the illustration, good eyesight can see that number “5” is the compartment on show in the aperture in the brass plate. At the rear of the two sections there is a mechanical linkage connecting them. On the outside of the case on the right hand side is a brass lever which, when depressed, moves the numbered section around one place. When the box’s front cover is in situ the numbered sections are not visible but there is a glass window provided to view the clockwork section, presumably to view the assumed disc mentioned above. There does not appear to be a maker’s mark stamped anywhere but the brass work is good quality. **KJTR**

LEVANT REPORT

At present Levant is closed for the winter shutdown period. Visitors are allowed into the engine house on ‘Greasy Gang’ maintenance days (usually Fridays), but they are required to keep at a safe distance. This is because some guards and floorboards have been removed to give access to those parts that need attention. The boiler has also been shut down for its annual inspection, pressure test and service.

There is an ongoing programme to replace corroded pipework to both the low and high pressure safety valve discharge pipes within the new boiler house. It is also intended to reduce the length of steam pipe to the pressure reduction valve and improve fuel consumption. Work has started on curing the water leaks within the wooden hot-well cistern and also its cast-iron external discharge pipework into the cooling pond. Concern still remains for the stability of the cooling pond as there is erosion around the base in the Zawn and expert advice is awaited from marine and structural engineers. The cooling pond will also need to be drained and cleaned out to establish whether a new liner will be needed. Painting of the exterior winding drums, main bearing cover, guards and engine has been completed.

Engine driver training will recommence once the steam Whim can be run again. This is for those interested in learning to drive either the Whim and the newly refurbished Electric Winder. Please come along if you are interested in becoming an engine driver or a tour guide. The mine can be contacted most Fridays on 01736 786156 and ask for Charlotte or Jak. Existing driver refresher courses will be started once Levant is reopened in March for the 2019 season.

A new West Cornwall National Trust manager is expected to arrive shortly and he will be responsible for the management of Levant, East Pool and Botallack Mines.

Ron Flaxman

SOCIETY MEETINGS PROGRAMME

KEM: 7.30 pm start at King Edward Mine, Tron, Camborne TR14 9DP.

Liskeard: 7.30 pm start at The Long Room, Liskeard Public Hall PL14 6BW.

Friday 8th February (KEM)

Cornish Branch Lines Then and Now.

By Dave Agar

Monday 11th February (Liskeard)

Railways from Bere Alston to Callington.

By Bruce Hunt

Friday 8th March (KEM)

The Origins of the Hain Steamship Company of St. Ives.

By Brian Stevens

Monday 11th March (Liskeard)

Tectonic Plates.

By Mark Anderson

Monday 8th April (Liskeard)

Talk on Lighthouses

By Alan Nicholas

Friday 12th April (KEM)

Talk on Lighthouses

By Alan Nicholas



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<http://www.trevithick-society.org.uk>

<https://www.facebook.com/trevithick.society/>

Non-members are welcome to attend.

Non-members £2.00 please.

MEMBERS' BENEFITS

Trevithick Society members are entitled to free entry (on production of the membership card) to the following attractions:

- King Edward Mine
- Cornish Engines at Pool (East Pool Mine and Michell's Whim)
- Levant
- Geevor Museum
- Poldark – free entry to site and reduced fee for underground mine tour

Also:

- 10% off book purchases at Tormark.
- 20% off purchases at KEM shop.

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The Trevithick Society, a registered charity, is a recognised body of the study of industrial archaeology in Cornwall. Membership is open to all who are interested in the region's great industrial past, whether or not they live in Cornwall. The Society takes its name from one of Britain's foremost inventors and pioneers of the Industrial Revolution, Richard Trevithick, a Cornishman whose name is inseparable from the development of steam power. This newsletter is published quarterly and, together with the annual journal, is distributed free to members. Letters and contributions are always welcome and should be sent direct to the editor.

The views expressed in this newsletter are those of the authors and not necessarily those of the Trevithick Society.



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