Cover Illustration–Cockenzie Harbour 1854

by Alan Braby

1722 Waggonway

A Brief History

2nd Edition

Gary Donaldson

Ed Bethune

1722 Waggonway Heritage Group

The 1722 Waggonway Story

The 1722 Waggonway Heritage Group has been setup to preserve and promote Scotland's first railway. Through research and archaeology, the group have uncovered the associated industries and people connected with the Tranent—Cockenzie Waggonway.

In the early 17th century, production of sea salt was a major industry in Scotland. Easily accessible coal, close to the sea, provided the ideal environment for the development of salt works. Blazing fires under pans of boiling brine were a common sight, especially around the Firth of Forth. A few towns to this day, such as Prestonpans, still bear the place names which give indication to their industrial past.

Map showing the location of coalfields and salt works around the Forth

Around 1630 George the 3rd Earl of Winton built a substantial salt works at Cockenzie. This ran successfully and was passed on through the family for generations. The family venture came to an end however, when George the 5th Earl of Winton forfeited his inherited estates, including the salt works, after supporting the 1715 Jacobite rising. This provided an opportunity for investment.

The York Buildings Company

The York Buildings Company was an English business originally established in 1695, its primary concern being to supply London households with water pumped from the Thames.

The Watergate, the York Buildings Company centre of operations on the Thames.

In 1719 the company raised money from investors to purchase many of the Scottish lands forfeited after the 1715 Jacobite rising. This included the Winton estate which was bought for £50,482. Eager to repay their nervous investors the company set out to make quick, profitable, returns from their new purchases.

In 1722 a wooden waggonway was constructed at a cost of £3,500. It connected the coal mine in Tranent to the harbour at Port Seton. This was to speed up transport of coal and increase salt production at Cockenzie, and feed the London market with these resources.

By 1733 the York Buildings Company was in serious debt. Slow communication, due to the distance from London, made managing the Scottish estates extremely difficult. The company could no longer pay its employee's wages and many investors have been reduced to absolute poverty due to poor returns. The company was forced to begin selling off its assets.

Over the next few decades the fortunes of the York Buildings Company continued to decline. Finally, in 1779 the Winton estate was broken up into lots and sold off.

SALE of the ESTATE of WINTON, and others.

BY authority of the Lords of Council and Session, and in pursuance of an act of Parliament in the 17th year of his present Majesty, there will be exposed to public SALE by Auction, within the Parliament-house of Edinburgh, on Monday the 15th day of February next, between the hours of four and six afternoon,

Advertisement from the Caledonian Mercury newspaper, Saturday 9th January 1779.

The waggonway and surrounding land was purchased by John Cadell of Cockenzie.

1722 Wooden Waggonway

In 1722 the lands between Tranent and Cockenzie were a marsh. This presented a natural barrier in transporting coal to Port Seton harbour two miles away on the coast. The boggy ground also made building an effective transport route extremely difficult.

To combat this, a 2 ½ mile long waggonway was constructed from wood. The oak track sits on timber sleepers which were less prone to sinking into the marsh. The waggons themselves were also made from oak, including the wheels. A simple wooden lever pressed against the wheel acted as a brake. A 'brakesman' used this to control the speed of each waggon during the descent.

Wooden waggons & coal gin mechanisms were used on the early waggonway

Contrary to popular belief the waggons were not pulled by horses but run downhill for much of the route freely under gravity. Horses were only used to pull empty waggons back up to a Coal Gin at the east of Tranent, a large winch mechanism pulled round by horse to raise a basket of coal from the mine.

In 1736 Archibald Robertson, owner of Port Seton glassworks, took over a five year lease of the waggonway from his brother-in-law, William Adam. It cost £460 annually, a small fortune!

The 1745 Battle of Prestonpans

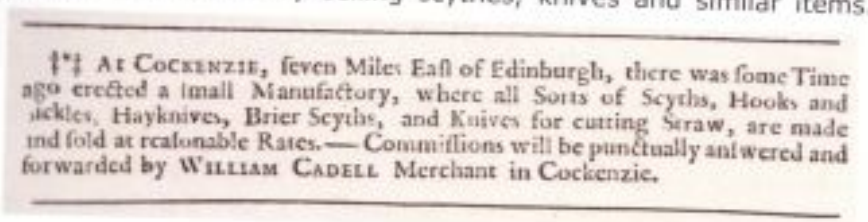
On the early morning of 21st September 1745, the Hanoverian Army of King George faced the Jacobites of Bonnie Prince Charlie. The two sides lined up in the fields between Preston and Seton.

The British artillery lined up along a section of the waggonway. The track did not sit on a raised banking so provided no means of cover. It served only as a marker to line up against. This action saw the battle become the first in history fought across a railway. The Jacobites were victorious following a successful charge across open ground. Several hundred Hanoverians were killed.

The Camerons charging the British artillery across the Waggonway (Gerry Embleton)

The Cadells

The story of the Cadells of Cockenzie began at the beginning of the 18th century when William Cadell arrived in Haddington working as a glazier. The family eventually settled in Cockenzie and ran a successful manufactory selling scythes, knives and similar items.



‡*‡ At Cockenzie, feven Miles Eaſt of Edinburgh, there was ſome Time ago erected a ſmall Manufactory, where all Sorts of Scyths, Hooks and ickles, Hayknives, Brier Scyths, and Knives for cutting Straw, are made nd ſold at reaſonable Rates.— Commiſſions will be punctually anſwered and forwarded by William Cadell Merchant in Cockenzie.

Advert from the Caledonian Mercury newspaper, Thursday 6th February 1755.

In 1750 William also oversaw the local construction of an impressively sized 'herring buss', a type of fishing vessel, called *The Grant*. This was captured 9 years later by French privateers whilst sailing between Gothenburg and Cockenzie.

A typical herring buss fishing vessel

Around 1759, William took lease of the Tranent coal mines and Cockenzie salt works from the York Buildings Company.

The Cadells quickly became prosperous industrialists and branched out into many new enterprises, not least the Carron Iron Works in Falkirk which went on to forge superior cannons during the Napoleonic Wars.

In 1777 William Cadell died and a short time later in 1779, his son John purchased the waggonway, coal pits, salt works and surrounding land from the now bankrupt York Buildings Company. This included Cockenzie House which became the family seat for many generations. As significant land owners the influence of the family grew and they became the local authority.

In 1810 the Cadells modernised the old salt works with John's son, Hew Francis, overseeing the work. This improvement greatly increased the quality and quantity of salt produced.

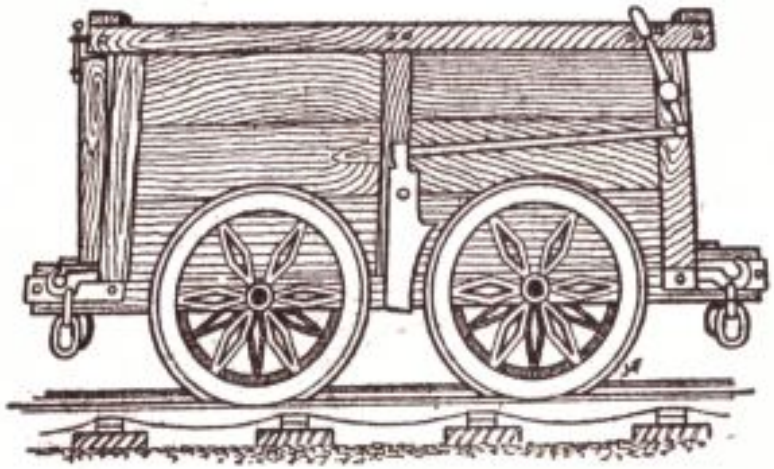
1815 Iron Waggonway

By 1815 the wooden waggonway was no longer fit for purpose. Wear and tear meant that the worn out timbers needed constant repair. Hew Francis had it replaced with cast iron 'fish-belly' rails, sitting on stone sleeper blocks. The waggonway now ran directly to Cockenzie Harbour, as 5 years earlier Port Seton Harbour had been destroyed by a storm.

'Fishbelly' rails (so called due to their shape) and stone sleeper blocks like those used on the 1815 waggonway

The gauge of the track was 3ft 3in, with the fish belly rails held in place by iron chairs bolted to the stone sleeper blocks.

The waggons were also redesigned, incorporating more cast and wrought iron features, most notably the wheels. Once fully loaded, 3 or 4 waggons coupled together formed a small train. The mode of descent did not change however, and gravity and a brakesman was still required.



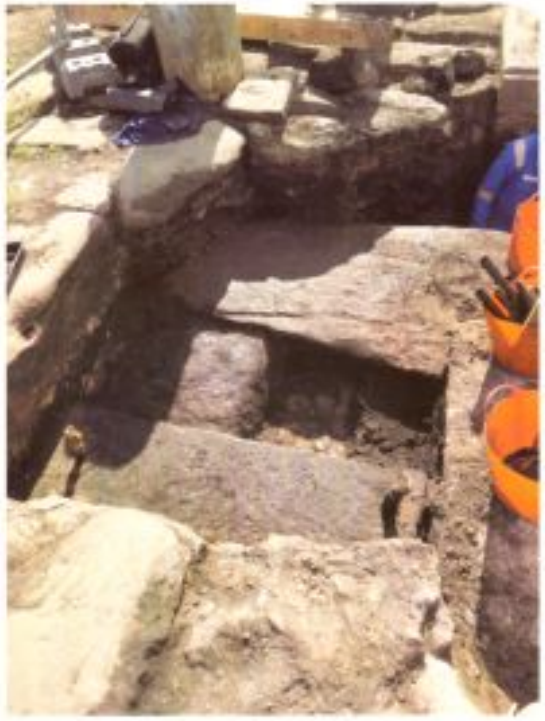
The type of waggon used on the 1815 waggonway (John Gray Centre, Haddington).

The improvements to the salt works and waggonway sparked an increase in exports. As a result, in 1829 the Cadells commissioned renowned civil engineer Robert Stevenson to expand Cockenzie harbour. To allow larger ships to berth a new eastern pier was proposed along with excavation of rock from the harbour seabed. The plans also proposed a system of innovative waggonway turntables and tipping mechanisms which allow coals to be loaded directly into the holds of ships.

The foundation stone was laid on 19th July 1833 and construction was completed in 1835 with the total cost being £6000. Around this time the waggonway route was also extended around the eastern side of Tranent to new coal pits in the Windygoul area.

In 1841 Robert Stevenson was contracted once again to draw up plans for a remodelling of the southern side of the harbour, with a new quayside and 'lady's stairs' proposed. These plans were never completed however, with the harbour today being unchanged since the 1833 modifications.

Excavations by the 1722 Waggonway Heritage Group in 2017-18 revealed the turntable cavity



Adjacent to the turntable cavity, built into the quayside, is space for a waggon tilting mechanism which would allow the coal to be deposited into the holds of the waiting ships via a ramped loading bay.

Many designs of loading bay and tilting apparatus existed in the 19th century, and this one appears to be specific to Cockenzie having been designed by Robert Stevenson in conjunction with the harbour design.

Cockenzie Harbour around 1845 showing Stevenson's improved rail system by Alan Braby

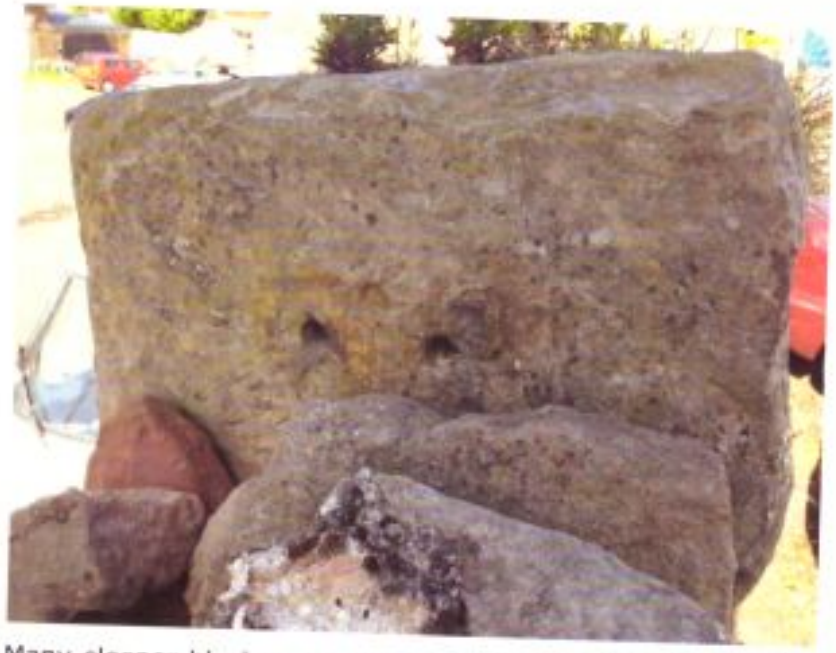
A map showing the 'Tram Road' and bridge at the North British Railway mainline

In 1846 The North British Railway opened a main line from North Berwick to Edinburgh. The railway cut through the Waggonway just north of Meadowmill so a small waggonway bridge was built over the track. A section of waggonway from Windygoul is reused as a standard gauge mineral railway and connected to the mainline via the Heugh.

The Cadells quickly took advantage of the new main line and begin transporting coal around the country using rail. Consequently export activity at Cockenzie Harbour declined, made worse by the fact that larger ships found it difficult to berth. Over the next few years the waggonway at Cockenzie fell into disrepair and was gradually removed, with many of the stone sleeper blocks being reused as building material for new local houses and walls.

Stone sleeper blocks built into the wall of a local house, circa 1862.

In 1873 Hew Francis Cadell died and The waggonway between Tranent and the North British Railway mainline was purchased by coal merchant James Waldie 5 years later. Waldie, along with other East Lothian coal merchants, went on to form the Edinburgh Collieries Company.



Many sleeper blocks can still be found built into walls in the local area

The waggonway section connected to the North British Railway mainline, was extended to Fleets Colliery south of Tranent.

In 1959 Fleets Colliery closed down and the waggonway section of line was no longer required and is dismantled. One small section of the waggonway, north of Meadowmill, was still used as a siding to park trailers, before finally being abandoned in the 1960s.

This final part of the waggonway route had been in continuous railway use for about 240 years, making it one of the oldest lines in the world!

James Paterson

James Paterson's father, George, worked as a blacksmith in Cockenzie, close to the waggonway. It's unclear if 11 year old James was working on the waggonway or playing nearby, but on 27th August 1762 he was struck by a waggon. He died from his injuries and was buried in Tranent Kirkyard the next day. It is the first death recorded on a Scottish Railway.

Salt works

Around 1630 George the 3rd Earl of Winton established 12 saltpans at Cockenzie. These are situated along the coast line on the rocky shore.

By 1716 the saltworks at Cockenzie had become the largest in Scotland, producing around 10% of the country's salt; 20,000 bushels (500 tonnes) per year.

By 1810 the salt works were starting to show their age. The pans in the salt houses were fairly small, measuring 14 x 7 ft and were heated by simply lighting a fire on the ground below. A bucket on the end of a lever (wand) was lowered from a pier on the rocky shore to lift seawater from collection ponds. This was tipped into the channels on the level of the pans which carried the seawater to the pan houses.

Hew Francis Cadell, replaced the old pans with larger 18 x 9 ft pans. Heating was now from an enclosed furnace on a grate with the pan sitting on top a flue system which carried the hot gases underneath and to the chimney. Sea water was delivered from a steam driven force pump to each pan house.

Cockenzie Saltworks around 1850 by Alan Braby

By 1883 only two saltpans remained in operation at Cockenzie. These were leased by Peter & Charles Foreman. The boiling brine was mixed with large quantities of rock salt to increase yields. The two working pans produced more salt than six pans could in 1840.

Towards the end of the 19th century Scottish salt works faced increasing competition abroad and from England. Foreign rock salt mines, and concentrated brine wells in places such as Cheshire, made boiling sea water expensive and inefficient. In 1889 The Scottish Salt Company was formed to protect the declining salt industry.

The two remaining salt pan houses at Cockenzie finally closed in 1939. Twenty years later the cast iron pan at Prestonpans, Scotland's last salt works, developed a hole. The owners could not find the skillset to carry out repairs and were forced to close down, signalling the end of the salt industry in Scotland.

Dr Swediaur

In 1786 Dr Franz Xaver Swediaur, an eminent Austrian physician and scientist, established a saltpan at Port Seton. It was a small works with the aim of producing 'superior quality' salt to sell and by-products for use in his medical experiments.

The operation barely lasted a year before the Doctor gave up in failure. He complained that the Cadell's monopoly on coal in the area made it prohibitively expensive to continue in business. It is also reported that Swediaur's seawater collection pond was far too small meaning his boiling pan often ran dry.

In 1797, Dr Swediaur admitted defeat and moved away to seek his fortunes elsewhere. Amongst the items listed for sale within his dwelling were 'books, a laboratory and an *electrical machine'*.

No doubt still bitter from his experience in dealing with the Cadells, the Swediaur published an account in 1789. Perhaps aimed at subverting the Scottish salt industry it is titled 'Arguments on the Abolition of the Laws Prohibiting the Free Importation of English Rock-Salt into Scotland'.

Salt Smuggling

1707 saw the creation of a political union between Scotland and England. As a commodity vital to the economy, salt became a hotly debated issue.

The last session of the Scottish Parliament was used to discuss the English salt tax that will be imposed on Scotland. It was hoped this would derail plans for the union.

Jacobite sympathisers chanted the slogan, 'No union, no malt tax, no salt tax' in an effort to drum up support.

A Salt Duty bill was passed by the newly formed British Parliament in 1713 and heavy taxes were imposed on Scottish salt. This quickly lead to a booming trade in salt smuggling to avoid paying the expensive price.

Around 1720 William Morison of Prestongrange was twice found guilty of salt smuggling and fined £430. The natural alcoves at Prestonpans where William hid the salt became known as Morison's Haven in modern times.

Cockenzie however, was no exception and Sandy Hewitt, a local Cockenzie salter took to smuggling salt from the works. Sandy developed an ingenious method to avoid detection. As the customs officer arrived to inspect the days salt production, Sandy created a diversion, convincing the officer illicit activity is taking place in a nearby salt house. As the officer hastily leaves to investigate, Sandy, having hid a bag of salt under the flagstones of the salt pan house, was able to sneak it out. This practice becomes known as *'cheating the gauger'*.

Salt making in Cockenzie today

The 1722 Waggonway Heritage Group has re-started salt production in Cockenzie on a small scale, as an experimental archaeology / living history project. Using William Brownrigg's contemporary guide, the group has been making salt on a regular basis since constructing a 1/3 scale replica pan in September 2017.