

HERITAGE ASSESSMENT REPORT

11 June 2026

NAME:	Beltana Lime Kilns	PLACE:	26631
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ADDRESS:	Adnyamathanha Country Lot 1055, Old Beltana Road, Beltana SA 5730
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Based on the information available to it, Heritage South Australia of the Department for Environment and Water presents this heritage assessment that considers the place satisfies criteria (a) of Section 16 of the *Heritage Places Act 1993*.



Beltana Lime Kilns

Source: DEW Files, 27 June 2023

ASSESSMENT OF HERITAGE SIGNIFICANCE

Statement of Heritage Significance:

The Beltana Lime Kilns played an integral part in the development of the township of Beltana as a major regional communication and transport hub. The lime kilns were built c.1870s to service the town's immediate needs, and lime from the kilns was used in the construction of the town's buildings, many of which are still extant, as well as associated infrastructure such as the Great Northern Railway. As such, the Beltana Lime Kilns played an important role in the growth of settlement in South Australia's Far North and the development of Beltana as a critical regional service town.

Relevant South Australian Historical Themes

2. Peopling Places and Landscapes

2.5 Establishing and abandoning settlements

4. Building Settlements, Towns and Cities

4.4 Making regional centres

4.8 Making homes for South Australians

Comparative Analysis:

The Beltana Lime Kilns are associated with nineteenth century lime production in South Australia. Lime manufacturing emerged as an important industry in the second half of the nineteenth century and was critical in providing the colony's building industry with lime for mortar, lime plaster, limewash and concrete.

Two types of lime kiln operated during this period. The first and most common were small-scale lime kilns providing lime for local use, often built in association with farmsteads. The second were commercial enterprises producing lime for export, usually to the Adelaide market. Irrespective of the scale of the operation, most late nineteenth century lime kilns were 'D' type kilns or variations of it.¹ There were also simple small-scale kilns consisting of circular chambers crowned with rough blocks of stone or brick and rarely lined, which operated similarly to small cylindrical shaft kilns.²

Key characteristics of nineteenth century lime kilns are:

- proximity to raw materials,
- often located on farms,
- brick and/or limestone construction,
- built into the face of a bank or hillside,
- built close to a water supply,
- firing area with recessed floor,
- multiple firing portals,
- fire brick lining,
- intermittent output operating in pairs,
- wood fuelled.

Additional characteristics associated with commercial lime kilns are:

- bagging and storage areas,
- associated quarry,
- burner shed,
- transport infrastructure.

The commercial lime kilns in the South Australian Heritage Register (Register) retain a high level of intactness, while those that demonstrate nineteenth century small-scale lime operations all survive in ruinous condition.

There are nine State Heritage Places (SHPs) associated with lime production in the Register.

Five of these SHPs are small-scale lime kilns:

- Green Farm Lime Kilns, 63 Monarto Road, Monarto (SHP 26598); confirmed 14 November 2024 under criteria (b) and (d); built in 1882 by local agriculturalist George Green; built to service the construction of buildings at the farm and for the local district and are an exceptional example of the class, displaying characteristics at a higher level of integrity and intactness than is typically found in the state,
- Old Lime Kiln and Quarry (known as Former Lime Kiln and Dolomite Quarry) Days Road, Woodside (SHP 12900); confirmed 20 November 1986; built 1871 and used until 1915, the quarry and kiln supplied a large area of the district, employing 37 people at its peak,
- The Peake Historic Site – Ruins of Overland Telegraph Station, Police Station, Homestead, Smelter and Cemetery, Oodnadatta (SHP 13624); confirmed 28 May 1987; complex includes the ruins of two stone lime kilns, used for the construction of the Overland Telegraph Station and thought to be among the oldest in the state,
- Dwelling – 'The Folly', Grasby Road, Balhannah (SHP 12928); confirmed 20 November 1986; includes a brick lined kiln built into a small hill adjacent to the main house,
- Dingley Dell Homestead Site, Flinders Ranges (SHP 11760); confirmed 5 April 1984; ruins of two, nineteenth century, square lime kilns rendered in lime mortar.



Green Farm Lime Kilns, Monarto (SHP 26598)

Source: DEW Files, December 2023



Lime Kilns, Peake Historic Site (SHP 13624)

Source: DEW Files, September 2007



Lime Kilns, Dingley Dell Homestead Site (SHP 11760)

Source: DEW Files, 2010

Four of these SHPs are commercial lime kilns:

- Lime Kiln, Stansbury-Yorketown Road, Stansbury (SHP 16680); confirmed 11 November 1999 under criteria (a), (d) and (g); operational from c.1897 until the 1950s, the kilns began as an adjunct to a farmstead before expanding into a commercial enterprise producing lime for the Adelaide market; site elements

associated with the lime manufacturing process include bagged storage areas, the burner shed, engine foundation, blower and air delivery pipes,

- Lime Kiln and Jetty, The Esplanade, Wool Bay (SHP 10112); confirmed 28 November 1987; established 1921, it is the largest wood burning lime kiln on the Yorke Peninsula. Exported lime for the Adelaide market,
- Former Lime Kilns, Lime Kiln Road, Tailem Bend (SHP 13808); confirmed 5 July 2000 under criteria (b); built c.1908, is one of the few commercial lime kiln complexes remaining in South Australia outside of the Yorke Peninsula; the four kilns built of rubble limestone and brick are the largest and best-preserved examples of early twentieth century lime kilns in the state.
- Lime Kiln Ruins, Bower Boundary Road, Bower (SHP 11024); confirmed 13 June 1996 under criteria (a) and (b); three brick-lined lime kilns built in the 1920s by the mid-Murray's largest lime manufacturer, the Bower Lime Works.



Lime Kiln and Jetty, Wool Bay (SHP 10112)

Source: DEW Files, June 2015

There are also four Local Heritage Places (LHPs) associated with lime production:

- Former Kulpara Lime Kiln, 2394 Copper Coast Highway, Barunga West (LHP); early twentieth century complex consisting of three open-topped kilns, two skillion roofed storage/bagging areas, a concrete floored storage/bagging area and an office,
- Ninnes Historic Well, Windmill and Tank, 1291 Lime Kiln Road, Thomas Plains (LHP),
- Farm cottage and outbuildings, 72 O'Leary Road, Mount Gambier (LHP),
- James Quarry Lime Kiln, Smith Street, Naracoorte (LHP).

Assessment against Criteria under Section 16(1) of the *Heritage Places Act 1993*. All Criteria have been assessed using the *Guidelines for Interpreting State Heritage Places* (approved by the South Australian Heritage Council on 14 March 2024).

(a) it demonstrates important aspects of the evolution or pattern of the State's history.

A place is of importance to the evolution or pattern of South Australia's history if that place is the product of, or is an example of, or was influenced by, or has influenced, or is associated with, or has a symbolic association with, or is the site of – an event, phase, period, process, function, movement, custom or way of life (including values, aspirations, tastes and fashions) which has made a **strong, noticeable or influential contribution** to the **evolution or pattern** of the settlement and development of South Australia.

The place should be closely associated with events, developments or cultural phases that have played a significant part in South Australian history.

Beltana Lime Kilns are associated with the following South Australian historic themes: Peopling Places and Landscapes and its subtheme, Establishing and abandoning settlements; and Building Settlements, Towns and Cities and its subthemes, Making regional centres and Making homes for South Australians.

The Beltana Lime Kilns were likely built in the 1870s when the town of Beltana was being constructed. Lime manufacturing was an important industry in the second half of the nineteenth century with most buildings erected at that time requiring lime products in one form or another including for mortar, plaster, concrete and limewash. The significance of the Beltana Lime Kilns lies in their connection to the Beltana State Heritage Area.

The Beltana Lime Kilns were integral to the establishment of the Beltana township, as lime from the kilns was used in the construction of the town's buildings, many of which are still extant, as well as associated infrastructure such as the Great Northern Railway. They contribute to the story of the town's development as a communication and transport hub, and a regional centre for mining and pastoral endeavours.

While documentary evidence is yet to be uncovered that definitely dates the building of the kilns, strong circumstantial evidence, including oral representations from people living in Beltana support the argument that the Beltana Lime Kilns were created in situ to service the town and meet the town's immediate needs. As such, they demonstrate a strong association with the growth of settlement in South Australia's Far North and with the township of Beltana, now a State Heritage Area, which was once a critical regional service town.

It is recommended that the nominated place **satisfies** criterion (a).

(b) it has rare, uncommon or endangered qualities that are of cultural significance.

The place must demonstrate qualities of cultural significant to South Australia that are rare, uncommon or endangered. Cultural significance may include building class, historic themes, construction techniques, ways of life, social customs, scientific achievement, industrial processes, topographical or natural features, or land use, etc that may no longer be practiced, are in danger of being lost or rarely found in South Australia. This may encompass places that were always rare or places that have become scarce through subsequent loss or destruction.

The place must have both cultural significance to South Australia and also possess uncommon, rare or endangered qualities. Places that are few in number and considered at risk of being lost for reasons such as changing land use, industrial processes and lifestyles, and economic pressures may be considered endangered. Places that might become rare or uncommon but are not yet uncommon or rare do not satisfy criterion (b). Determining if a place is uncommon, rare or endangered requires contextual analysis to understand how common the place once was and how many examples still survive. A place may be uncommon, rare or endangered but not culturally significant to South Australia, in this instance the place is considered to not satisfy criterion (b).

Nineteenth century lime kilns are culturally significant to South Australia because they demonstrate the industrial process of small-scale lime burning. Lime production, known as lime burning, was once a common industrial process that played a critical role in the development of the state's building industry in the nineteenth century. Lime was a necessary ingredient in mortar and plaster, with nearly every nineteenth century building using these products somewhere in their structure.

However, there are five State Heritage Places (SHPs) that demonstrate the industrial process of small-scale lime burning, including the Green Farm Lime Kilns, Monarto (SHP 28462) and the two stone lime kilns at the Peake Historic Site in Oodnadatta (SHP 12624) (see Comparative Analysis). There are also many lime kilns not entered in the Register that demonstrate lime burning such as kilns at Beltana Station, Merna Mora Station, and in the abandoned town of Cadnia. As such, the Beltana Lime Kilns cannot be described as a rare, uncommon or endangered example of this process.

It is recommended that the nominated place **does not satisfy** criterion (b).

(c) it may yield information that will contribute to an understanding of the State's history, including its natural history.

A place may satisfy criterion (c) if it has the potential to yield information, typically in the form of physical evidence that will contribute to an understanding of South Australia's history. There must be strong existing evidence, in any form, to substantiate that the place is likely to yield information about South Australia's history that is not readily available from other sources and that sufficient integrity remains to yield the information.

The place should provide, or demonstrate a high likelihood of providing, tangible evidence that will contribute significantly to our knowledge of the past. The place may be a built structure, an archaeological deposit or a geological, palaeontological, speleological or historic site.

The Beltana Lime Kilns were built on the southern bank of Sliding Rock Creek in the town of Beltana, most likely during the 1870s. Lime kilns entered into the Register such as Green Farm Lime Kilns (SHP 28462) and Lime Kiln, Stansbury (SHP 16680) display many of the principal characteristics of nineteenth century lime kilns (see Comparative Analysis), and have a higher level of integrity and intactness. As such, they would be more likely to yield information about about nineteenth century lime manufacturing in South Australia when compared to the Beltana Lime Kilns.

It is recommended that the nominated place **does not satisfy** criterion (c).

(d) it is an outstanding representative of a particular class of places of cultural significance.

To satisfy criterion (d), a place must belong to a class of place, be an outstanding representative of the class and the class of place must also be of cultural significance to South Australia. To be an outstanding representative of a class of place the place needs to be an exceptional example of the class and/or an influential example of the class and/or a pivotal example of the class. The place must also retain sufficient intactness to represent the class with a high level of integrity.

The class of place should be of cultural significance in a state-wide context. The place should be outstanding when compared with other places in the class.

The Beltana Lime Kilns are a representative of the class of place known as nineteenth century lime kilns. Lime kilns were critical to the colony's early building industry, providing lime for mortar, plaster and concrete.

The Beltana Lime Kilns demonstrate some of the principal characteristics of nineteenth century lime kilns (see Comparative Analysis), including:

- proximity to raw materials, in this instance limestone and river red gum,
- built into the face of a bank or hillside,
- built close to a water supply,
- intermittent output operating in pairs,
- firing hole,
- wood fuelled.

However, when compared to other small scale and commercial lime kilns entered in the Register, such as the Green Farm Lime Kilns (SHP 28462) and Lime Kiln and Jetty (SHP 10112) in Wool Bay, the Beltana Lime Kilns possess fewer principal characteristics. Further, the Beltana lime kilns have experienced some natural degradation and as a result do not have as high a level of integrity and intactness as other examples of lime

kilns in South Australia (see Comparative Analysis). It is for these reasons that the Beltana Lime Kilns are not considered to be an outstanding example of the class.

It is recommended that the nominated place **does not satisfy** criterion (d).

(e) it demonstrates a high degree of creative, aesthetic or technical accomplishment or is an outstanding representative of particular construction techniques or design characteristics.

To satisfy criterion (e) the place must demonstrate a high degree of accomplishment that is creative and/or aesthetic and/or technical or is an outstanding representative of particular design characteristics or construction techniques. A place may demonstrate only one or a number of these distinguishers to satisfy the criterion.

The place should show qualities of innovation or departure, beauty or formal design, or represent a new achievement of its time. Breakthroughs in technology or new developments in design would qualify, if the place clearly demonstrates them. A high standard of design skill and originality is expected.

Built in the 1870s, the Beltana Lime Kilns are typical of nineteenth century small-scale lime kilns, with a simple vernacular design commonly associated with small-scale kilns in country towns and regions. As such, the kilns cannot be said to have a high degree of creative, aesthetic or technical accomplishment. Furthermore, other kilns such as Wool Bay Lime Kiln (SHP 10112) and Green Farm Lime Kilns (SHP 28462)(see Comparative Analysis) demonstrate a higher standard of design skill and development. Consequently, the Beltana Lime Kilns are not a pivotal, exceptional or influential example of lime kilns and cannot be said to be an outstanding representative of particular construction techniques or design characteristics.

It is recommended that the nominated place **does not satisfy** criterion (e).

(f) it has strong cultural or spiritual association for the community or a group within it.

To satisfy criterion (f), there needs to be clear evidence of a cultural or spiritual association between the community or a group within it and the place. The reasons for the attachment may be spiritual, religious, cultural, political or derived from common experience. The attachment must be enduring and strong.

Places that meet this criterion embody meanings and values that are important to a community or cultural group. The place should demonstrate strong and direct associations for a community or group within it that resonates into the broader community and links to the South Australian identity. The community or group within it must be one that would be broadly recognised by most South Australians as a community or group. The association between the community or group and the place must be enduring, with evidence to demonstrate that there is at least one generation (about 25 years) of association, acknowledging that levels of attachment may fluctuate over time.

The Beltana Lime Kilns have cultural associations for the Beltana Progress Association Inc (also known as the Beltana Sport and Social Progress Association), a group established in 1911 to facilitate community activities, and later to promote the town of Beltana and protect its interests. However, this group holds multiple places in Beltana in high regard and there is no evidence that it holds the Beltana Lime Kilns in higher regard than such other places, including the Beltana State Heritage Area (SHA 13886) .

As the place failed to meet the first threshold test, no further tests are considered under criterion (f).

It is recommended that the nominated place **does not satisfy** criterion (f).

(g) it has a special association with the life or work of a person or organisation or an event of historical importance.

To satisfy criterion (g), the place must have an association that is considered to be special with the life or work of a person, organisation or event. The person, organisation or event must be notable or important to the history of South Australia and the place must be associated with why the person, event, or organisation is notable or important.

There needs to be evidence of a special association between the place and the person, organisation or event that has played an important role in South Australia's history. The association may be demonstrated through the fabric of the place or other evidence, such as archaeological fabric, documentary sources and/or oral history. Most people are associated with many places in their lifetime, and it must be demonstrated why the place being assessed has associations that are significant at the State level.

While the Beltana State Heritage Area is associated with several people, organisations and events of historical importance (see History), there is no evidence the Beltana Lime Kilns have a special association with the life or work of a person or organisation or event of historical importance.

It is recommended that the nominated place **does not satisfy** criterion (g).

PHYSICAL DESCRIPTION

The Beltana Lime Kilns are simple circular kilns, similar to small cylindrical shaft type kilns. They comprise two lime kilns set into the southern bank of Sliding Rock Creek, flanked by earthen ramps.

Features include:

- crowns built from rubble stone,
- circular shafts containing debris,
- an iron rod in the western kiln,
- firing port in the western kiln,
- a depression to the east of the kilns containing ash and discarded lime,
- proximity to the Beltana State Heritage Area.

Elements of Significance:

Elements of heritage significance include:

- Two small-scale lime kilns,
- Siting of kiln within the bank of the creek, earthen ramps on either side,
- Depression containing ash and discarded lime,
- Iron rod in western kiln.

Elements not considered to contribute to significance of place include:

- Surrounding vegetation.

HISTORY

The South Australian Lime Industry

Lime kilns were used to reduce local limestone or seashells into powdered common lime or quicklime. Lime was essential to the building industry as a key component of mortar, lime plaster, whitewash, concrete and cement. Limestone and seashells are comprised of calcite, a stable form of calcium carbonate (CaCO_3), which when burnt breaks down in a process known as calcination to create lime (calcium oxide CaO).³ The lime could then be slaked with water to form calcium hydroxide ($\text{Ca}[\text{OH}]_2$), which is mixed with sand to make mortar or used in other lime-based building products.⁴

Lime was used in nearly every nineteenth century building in South Australia in one form or another and lime kilns were established in areas where limestone, dolomite or sea shells were abundant.⁵ Lime kilns were mostly small-scale and built to service one building operation or to supply a particular district.⁶ Many were established by farmers to supplement their income by utilising the surface stone cleared from paddocks.⁷

The most common variety of lime kiln in South Australia was the intermittent kiln, which was loaded, fired, then allowed to cool before reloading.⁸ Subtypes included flare kilns, where the fuel and stone were kept separated, and mixed feed kilns, where the fuel and stone were loaded in alternating layers, with the thickest layer of fuel, usually composed of brush and kindling, forming the base. In mixed feed kilns, the load was lit from the bottom and allowed to burn without further attention.⁹ Firing took between 48 and 90 hours, with the degree of burning achieved judged by forcing an iron bar through the lime from the top, and by observing the shrinkage of the load.¹⁰ Due to the time and labour required to operate intermittent kilns they typically worked in pairs to produce an almost continuous output, one kiln being fired while the other was cooling.¹¹

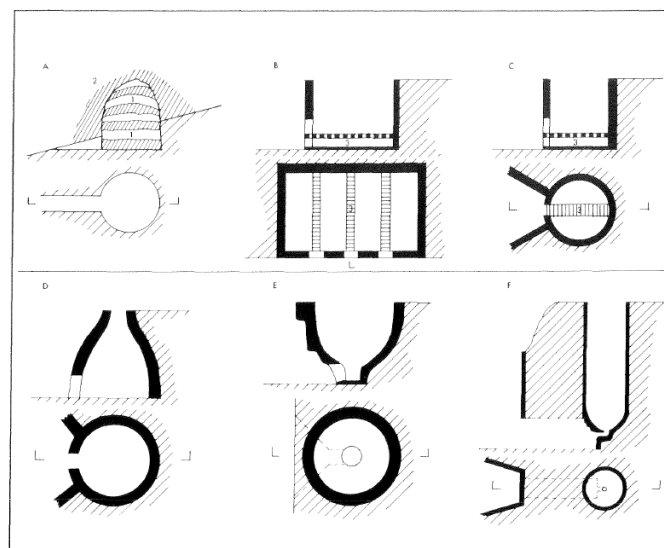


Figure 1. Diagram of the major kiln forms. A. Pit-burn kiln; B. D-type kiln; C. Small cylindrical shaft kiln; D. Inverted cone (bottle) kiln; E. Inverted bell kiln; F. Continuous feed shaft kiln.

Source: Michael Pearson, *The Lime Industry in Australia – An Overview*, 29.

Early forms of intermittent kilns included heap and pit burning kilns. These kilns were unlikely to leave substantial physical evidence behind, aside from scorched earth, or shallow depressions.¹² Slightly more complex kiln forms were circular chambers crowned with rough stones or bricks, with an unlined interior.¹³ Though simple, these kilns operated similarly to small cylindrical shaft kilns (Figure 1). However, the most common form of intermittent kiln in South Australia was the D-type kiln and the small cylindrical shaft kiln (Figure 1). The second variety of kiln was the continuous kiln, which was designed so that fresh fuel and stone could be placed in the kiln and burnt lime withdrawn without interrupting the continuous burning process.

Commercial scale lime kilns emerged in the late 1880s, producing lime predominately for the Adelaide market. This coincided with the advent of rail transport and, after the turn of the century, the increasing production of cement and concrete in central locations bringing about the demise of most country lime kilns in South Australia.¹⁴

Kuyani-Adnyamathanha Country

Kuyani or Kuyani-Adnyamathanha is one of four closely related language groups of Aboriginal people associated with land around the Northern Flinders Ranges of South Australia. These four groups include Kuyani, Pirlatapa, Wailpi and Yadiyawara and are collectively known as Adnyamathanha.¹⁵ The Adnyamathanha or Yura people are recognised as the Traditional Owners of the country around the northern Flinders Ranges, north-east into the Gammon Ranges and from the eastern side of Lake Frome to the eastern edge of Lake Torrens.¹⁶ The town of Beltana, located 540km north of Adelaide in the Flinders Ranges, is part of Adnyamathanha country.

The arrival of colonial settlers to the Northern Flinders area from the 1850s resulted in the appropriation of land for grazing, mining and settling. Frontier clashes between the Adnyamathanha people and colonial settlers occurred as access to country including culturally important sites, food sources and water was increasingly restricted. In 1931 the Adnyamathanha community relocated west to Nepabunna, on what had become Balcoona Station, and in 1973 they were granted freehold over 20 square kilometres of country. The Adnyamathanha people have maintained a presence across their traditional country, including in Beltana.

Beltana's Growth

The first grazing lease around Warrioota Creek was taken up by John Haines in 1854 and the station was named Beltana. Robert Barr-Smith acquired Beltana Station with his business partner Thomas Elder in 1862, along with a number of other holdings in the area.¹⁷ In 1866, Elder and Barr-Smith imported 124 camels accompanied by 31 Afghan camellers gathered from the area around Karachi, Sindh in India, now Pakistan, along with necessary equipment. Only 109 camels reached Beltana Station. The cameleers originally settled in a camp near Beltana Homestead on Beltana Station, but later moved to Warrioota Creek near Beltana township. This group was one of the earliest non-European migrant groups in South Australia. The Afghan camellers played an important role in colonial exploration and settlement, particularly in the continent's interior.¹⁸

In 1870 copper was discovered at Sliding Rock, approximately 25km from Beltana Station, giving rise to the region's first substantial colonial-era mine. Prospectors and businesses were drawn to the site, and it quickly became a profitable venture. An adjacent settlement named Cadnia was surveyed in 1872 and by 1876 the town catered for up to 500 miners and their families.

In 1870, the construction of the Overland Telegraph Line began, which was one of the most important engineering feats undertaken in nineteenth century Australia.¹⁹ The Overland Telegraph Line went on to span 3,000km between Adelaide and Port Darwin, linking Australia with the rest of the world. The project was planned in three sections, to be constructed concurrently. The southern section spanned from Port Augusta to Macumber River, north of Oodnadatta, and the site for the first repeater station was determined to be at the Warrioota Creek crossing, on the track from Beltana Station to Sliding Rock Mine.²⁰ The Beltana Telegraph Station, initially constructed from galvanised iron, was operational by June 1871, when the section of line from Port Augusta to Beltana was completed.

The discovery of copper and subsequent development of Sliding Rock Mine and Cadnia township (SHP 13889), the location of Beltana Station (SHP 10319), and the location of the Telegraph Station led to the construction of Martin's Eating House in 1870 near the Warrioota Creek crossing. Originally constructed from pine, mud and corrugated iron, this was the first building in the area of what would become the Beltana township and offered accommodation, refreshments and supplies.²¹ In 1873, a Government Survey was completed, and Beltana was gazetted as a town with Martin's Eating House and the early Telegraph Station situated at its nucleus. The town survey, which consisted of 180 acres, followed the government's Parklands model established by GW Goyder and based on the Adelaide Plan was laid out as a grid of streets with 115 allotments surrounded by parklands. Allotments were reserved for community buildings such as a police station, school and courthouse.²²

The town developed, with services that were once provided at Beltana Homestead now offered in the town. In 1877, Sliding Rock Mine closed due to continual flooding, and the town of Cadnia was mostly abandoned. Much of the community consequently moved to settle in or around Beltana township.²³

In 1878, construction of the 'Great Northern Railway' began. The railway was to run from Port Augusta to Port Darwin, and in 1881 reached Beltana township. By 1882, the first section of the line was completed at Farina, known at the time as Government Gums.²⁴ The opening of the railway brought the town's most prosperous years, with the population more than doubling due to an influx of construction workers, teamsters, engineers and others involved with the project. Thousands of timber sleepers were prepared, many in the dry creek bed of Warrioota Creek, and laid, and bridges were constructed.²⁵ In some areas, lime kilns were built close to the line to provide lime for concrete used in the construction of culverts and bridges.²⁶

From 1894, the Presbyterian Church based the travelling 'Smith of Dunesk Mission' in Beltana. Rev. Robert Mitchell and his daughter provided the regional community with

regular church services, visiting every member of the community at least once a year, as well as medical and dental assistance. From 1911-12, Rev. John Flynn was based in Beltana with the Smith of Dunesk Mission. Known as 'Flynn of the Outback' he worked to address isolation and a lack of medical care in Australia's outback and went on to see the formation of the Australian Inland Mission and the Flying Doctor Service.²⁷

From the late 1870s until the late 1920s, Beltana prospered, largely due to various mining activities and the transcontinental railway.²⁸ The population grew and sustained various occupations including a medical practitioner, a teacher, a court clerk, butchers, hotel keepers, a police sergeant, station managers and teamsters, miners and prospectors, as well as their families. Court was held every second month, there was a hospital and church with outreach services, a mining exchange, a local brewery and police station with cells. Residents in nearby camps or Beltana Station included many of the Afghan community who worked primarily in transport, and the Adnyamathanha community who mostly worked on sheep and cattle stations, in transport and other services.²⁹ Beltana had become an important service centre for the region.

Beltana Lime Kilns

The Beltana Lime Kilns were likely built in the mid-to-late 1870s when Beltana was surveyed and gazetted as a town. Many of the original buildings, built of pug and pine or iron, were soon replaced by stone buildings.³⁰ As the lime kilns were built approximately 1.9km from the township on the banks of Sliding Rock Creek, one of three waterways in Beltana, it is probable that the stone buildings were made with lime likely burnt in the lime kilns.

The intermittent kilns are a simple small-scale kiln type, similar to a small cylindrical shaft kiln, consisting of two excavated circular chambers, unlined and crowned with rubble stone.³¹ While the method of operation is unable to be determined based on the structural remains, it was most likely operated as an intermittent mixed-feed kiln.³² The interior walls of the kiln indicate extensive use due to their baked brick-like consistency.³³ River red gums, which lined the banks of Sliding Rock Creek were likely used as fuel for the kilns, and an iron rod located in the western kiln was likely used to determine when the burning process was completed by forcing the rod through the lime load. To the east of the kilns are the remnants of either ash and discarded lime. These may be remnants of heap or pit burning, although no documentary evidence has been discovered to confirm this possibility.

Due to their proximity to the narrow gauge railway, it is probable that the culvert, dam and weir in Beltana constructed to provide water for steam locomotives, contained lime from the Beltana Lime Kilns in the mortar or concrete.³⁴ In 1922, Carl Friedrich Wilhelm Pfitzner, a butcher in Beltana, built his home with the help of his son, using lime from the kilns, and the last known use of the kilns was in the early 1940s by Lance Nicholls, a contractor and pastoralist in Beltana.³⁵

Population Decline

From the 1920s, drought, depression and mechanisation resulted in a decline in outback populations including that of Beltana. Leigh Creek Coalfield, located north of Beltana, opened in 1940 and the associated township was built adjacent to the mine. The government town of Leigh Creek started as a camp of tents but established with housing and services including a school and hospital to support a population of 1,000 people.³⁶ The sparsely populated northern Flinders Ranges could not support two service centres in close proximity, leading to Beltana's decline as a service centre, although it still provided some services to local pastoralists.

In 1956, the railway line was upgraded to standard gauge and the line was realigned 10km away from Beltana. This development resulted in further population decline as railway employees left Beltana. Shortly after, the Royal Victoria Hotel closed in 1957 and the police station the following year. The school closed in 1967 with the remaining children bussed to Leigh Creek to attend the school. Buttfield's store remained open until 1967 and then moved to the old railway station to become both pub and general store. In 1983 the main road was also realigned to run closer to the railway, and the store closed.³⁷

In 1987 Beltana township was listed as a State Heritage Area because of its role as a pivotal hub in early pastoral, transport and communication industries, and for its role in the development of South Australia's Far North.

Chronology

Year	Event
1850s	Colonial settlers arrive in Northern Flinders.
1853	Government begins supplying rations to Adnyamathanha people.
1854	Beltana Pastoral Station established by John Haines.
1862	Robert Barr-Smith and Thomas Elder acquire Beltana Pastoral Station.
1863	Great Northern Railway first proposed.
1866	Barr-Smith and Elder import 124 camels to Beltana Station, accompanied by 31 Afghan cameleers.
1870	Copper is discovered at Sliding Rock (Cadnia).
c.1870s	Beltana Lime Kilns constructed.
1870	Construction of the Overland Telegraph Line begins.
1870	Martin's Eating House (later the Beltana Hotel) constructed.
1871	Sliding Rock Mine operations begin.
1871	The Beltana Telegraph Repeater Station is fully operational.
1872	Overland Telegraph Line is completed.
1872	Survey of adjacent settlement of Cadnia.
1873	Government Survey completed, and Beltana gazetted as a town.

- 1873 Martin's Eating House replaced by Beltana Hotel.
- 1875 Beltana Telegraph Repeater Station replaced by stone building.
- 1877 Sliding Rock Mine closes.
- 1878 School building relocated from Cadnia to Beltana.
- 1878 Royal Victoria Hotel opens.
- 1880 Cadnia is mostly abandoned.
- 1881 Great Northern Railway reaches Beltana.**
- 1881 Railway Station Complex opens.
- 1881 Police Station and Lock-up opens.
- 1881 Assembly Hall opens.
- c.1881- Dam, weir and culvert built.**
- 1882**
- 1887 Buttfield's Cash Store opens.
- 1893 New Government School opens.
- 1894 Presbyterian Manse built.
- 1894 Travelling 'Smith of Dunesk Mission' established.
- 1911 Beltana Progress Association formed.
- 1912 Australian Inland Mission (A.I.M) founded.
- 1919 A.I.M Nursing Home established in Presbyterian Manse building.
- 1922 Carl Friedrich Wilhelm Pfitzner builds home with the help of son Walter using quicklime from the lime kilns.**
- 1931 Adnyamathanha relocate west to Nepabunna.
- 1932 Presbyterian Missions closes.
- 1940 Leigh Creek Coalfield opens.
- c.1940s Lime kilns used by Lance Nicholls.**
- 1951 Beltana Progress Association purchases Assembly Hall.
- 1952 A.I.M Nursing Home closes.
- 1956 Narrow gauge railway replaced by standard gauge railway, bypassing Beltana.**
- 1957 Royal Victoria Hotel closes.
- 1958 Police Station closes.
- 1980 Lot 1055 licenced to Electricity Trust of South Australia.
- 1981 Beltana Post Office officially closes.
- 1983 Buttfield's Store closes.
- 1983 Dirt road replaced by bitumen road, bypassing Beltana.**
- 1987 16 July: Beltana State Heritage Area (SHA 13886) confirmed in the Register.**

- 1989 23 November: Mining Site - Sliding Rock Mine and Cadnia Township (SHP 13889) confirmed in the Register.
- 1996 Lot 1055 Out of Hundreds (Copley) gazetted for community purposes. Beltana Sport and Social Progress Association Inc. given custodianship of Lot 1055.**

Bibliography

Books and Chapters

- Aird, Graham and Nick Klassen. *Beltana: The Town That Would Not Die*. Lutheran Publishing House, 1984.
- Beltana Pastoral Company Limited. *A History of the Beltana Pastoral Company Limited*. Beltana Pastoral Company Limited, 1965.
- Brock, Peggy. 'North Flinders Ranges.' In *Colonialism and its Aftermath: a History of Aboriginal South Australia*, edited by Peggy Brock and Tom Gara. Wakefield Press, 2017.
- Carne, J.E. and L.J. Jones. *The Limestone Deposits of New South Wales*. William Applegate Gullick, Government Printer, 1919.
- Harrington, Jane. *An archaeological and historical overview of limeburning in Victoria*. Heritage Council Victoria, 2000.
- Hull, Ivan. *The Rise and Fall of Beltana: A Settlement Study*. Ivan Hull, 1973.

Archival

- South Australia Surveyor Generals Office, 1881, National Library of Australia, nla.obj-231952457-1.

Heritage Surveys

- Austral Archaeology and Donovan and Associates. 'Flinders Ranges Heritage Survey Volume 8 Mining Places.' Prepared for the Department of Environment and Natural Resources (1995).
- Bell, Peter, 'Beltana State Heritage Area: History.' In *Flinders Ranges Heritage Survey: Volume 6 Towns*. Austral Archaeology and Donovan and Associates prepared for the Department of Environment and Natural Resources (1995).
- Department of Mines. 'Geology of the Beltana 1:63,360 Map Area.' South Australia, 1970.
- Johns, R.K. 'Limestone, Dolomite and Magnesite Resources of South Australia', *Geological Survey of South Australia*, Department of Mines, no.38 (1963).
- Walshe, Keryn. 'Archaeological Survey of Aboriginal Sites and Objects in the Beltana Township and Environs, South Australia.' Prepared for Telstra (1998).
- Weidenhofer Architects. 'Yorke Peninsula Heritage Survey: General Report.' Prepared for Department for Environment, Heritage and Aboriginal Affairs (1997).

Papers, Reports and Unpublished Reports

Department for Environment and Water, *Draft Heritage Standards: Beltana State Heritage Area*. Self-published, 2025.

Department for Environment and Water, *Summary of State Heritage Place: Green Farm Lime Kilns, Monarto*. Self-published, 2024.

Ellis, R. W. '‘Beltana, South Australia.’ Cases of Conservation Policies (Buildings and Significant Sites Within the Settlement.’ *Australia ICOMOS Proceedings: The tide of Australian settlement – conservation of the physical evidence* (1978).

Ross, Betty. 'Beltana: Site Documentation: Beltana.' unpublished report (1979).

Journal Articles

Livingston, Kevin T. 'Charles Todd: powerful communication technocrat in colonial and federating Australia.' *Australian Journal of Communication* 4, no.3 (1998): 1-10.

Pearson, Micheal. 'The Lime Industry in Australia – An Overview'. *Australian Historical Archaeology* 8 (1990): 28-35.

Scriver, Peter. 'Mosques, Ghantowns and Cameleers in the Settlement History of Colonial Australia.' *Fabrications* 13, no.2 (2004): 19-41.

Scriver, Peter, Katharine Bartsch and Md. Mizanur Rashid. 'The Space of Citizenship: Drifting and Dwelling in 'Imperial' Australia.' *Fabrications* 26, no.2 (2016): 133-157.

Newspapers and Magazines

'A Trip to Pole Creek and the Strangways Spring Railway'. *The Port Augusta Dispatch, Newcastle and Flinders Chronicle*, 31 August 1885, 2.

'Beltana Notes'. *The Outback Battler*, vol.1 no.2, 1 July 1911, 3.

'Snapshots from Beltana'. *Observer*, 3 December 1921, 25.

'The Great Northern Railway'. *South Australian Register*, 20 May 1882, 1.

Websites

Merna Mora Station 'Old Stone Kilns.' Accessed 6 March 2026. <https://www.mernamora.com.au/old-stone-kilns/>.

Pichi Richi Railway. 'The history of the bridges of the Pichi Richi Railway: part 1.' Accessed 10 March, 2026. <https://www.pichirichirailway.org.au/history/permanent-way-and-bridges/history-bridges-of-pichi-richi-railway-part-1>

SITE RECORD

NAME:	Beltana Lime Kilns	PLACE NO.:	26631
DESCRIPTION OF PLACE:	Two small-scale kilns, crowned with rubble stone and set in hillside.		
HISTORIC THEME/S	2. Peopling Places and Landscapes 2.5 Establishing and abandoning settlements 4. Building Settlements, Towns and Cities 4.4 Making regional centres 4.8 Making homes for South Australians		
DATE OF CONSTRUCTION:	c.1870s		
REGISTER STATUS:	Nominated: 17 August 2023 Provisionally entered/rejected:		
CURRENT USE:	Unused, c.1950s – present		
PREVIOUS USE(S):	Lime production, c. 1870s – 1940s		
LOCAL GOVERNMENT AREA:	Outback Communities Authority		
LOCATION:	Street No.:	Lot 1055	
	Street Name:	Old Beltana Road	
	Town/Suburb:	Beltana	
	Post Code:	5730	
LAND DESCRIPTION:	Title and Plan	CR 5327/206 H833900 S1055	
	References:		
	Hundred:	Out of Hundreds (Copley)	
MAP REFERENCE	-30.7951985, 138.4085001		

PHOTOS

NAME: Beltana Lime Kilns

PLACE NO.: 26631



Lime kilns viewed from the southern bank of Sliding Rock Creek (indicated by arrows). The discarded lime and ash (or remnants of heap or pit burning) can be seen to the left of the image.

Source: DEW Files, 27 June 2023



Interior of the eastern kiln, showing dirt and debris filling the shaft. Note the interior is not lined.

Source: DEW Files, 27 June 2023

NAME: Beltana Lime Kilns

PLACE NO.: 26631



Interior of western kiln. Note the firing port partially visible (indicated by arrow) and iron rod.

Source: DEW Files, 27 June 2023



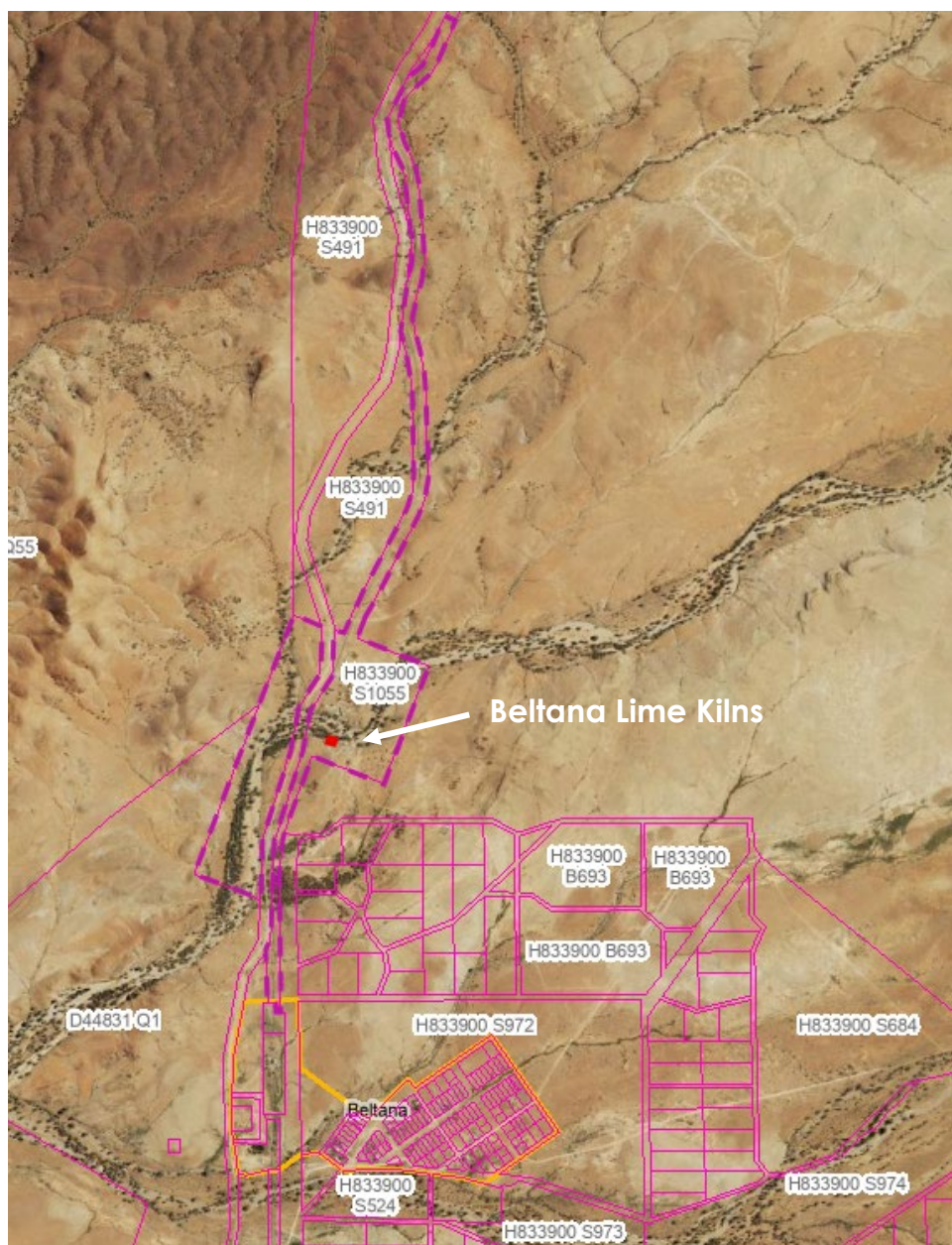
The two lime kilns side by side. Note the partially visible firing port and iron rod (indicated by arrows) on the western kiln to the bottom right of the image.

Source: DEW Files, 27 June 2023

SITE PLAN

NAME: Beltana Lime Kilns

PLACE NO.: 26631



Beltana Lime Kilns, Beltana SA; CR 5327/206 H833900 S1055, Out of Hundreds (Copley).

N ↑

LEGEND

-  Parcel boundaries
-  Existing State Heritage Area
-  Outline of Elements of Significance for State Heritage Place

*Red outline is indicative of elements of significance, noting imperfect alignment of aerial imagery with parcel cadastre for the building.

NAME: Beltana Lime Kilns

PLACE NO.: 26631



Beltana Lime Kilns, Beltana SA; CR 5327/206 H833900 S1055, Out of Hundreds (Copley).

Elements of heritage significance include:

- Two small-scale lime kilns,
- Siting of kiln within the bank of the creek, earthen ramps on either side,
- Depression containing ash and discarded lime,
- Iron rod in western kiln.

Elements not considered to contribute to significance of place include:

- Surrounding vegetation.

N ↑

LEGEND

 Parcel boundaries

 Existing State Heritage Area

 Outline of Elements of Significance for State Heritage Place

*Red outline is indicative of elements of significance, noting imperfect alignment of aerial imagery with parcel cadastre for the building.

Table of Changes

Date	Action	Officer

¹ Michael Pearson, 'The Lime Industry in Australia – An Overview', *Australian Historical Archaeology* 8 (1990), 29; Jane Harrington, *An archaeological and historical overview of limeburning in Victoria* (Heritage Council Victoria, 2000), 9.

² J.E. Carne and L.J. Jones, *The Limestone Deposits of New South Wales* (William Applegate Gullick, Government Printer, 1919), 12.

³ Pearson, 'The Lime Industry in Australia – An Overview', 28.

⁴ Lime is still used today for a variety of purposes, including mortars and plasters in the building industry, in agriculture to open and lighten clayey soils and improve other soils in various ways, and in a variety of chemical and industrial processes.

⁵ R.K. Johns, 'Limestone, Dolomite and Magnesite Resources of South Australia', *Geological Survey of South Australia*, Department of Mines, no.38 (1963),12.

⁶ Pearson, 'The Lime Industry in Australia', 33.

⁷ Weidenhofer Architects, 'Heritage of the Yorke Peninsula: General Report', prepared for the Department for Environment, Heritage and Aboriginal Affairs (1997), 31.

⁸ Pearson, 'The Lime Industry in Australia', 28.

⁹ Quoted in Jane Harrington, *An archaeological and historical overview of limeburning in Victoria*, 9.

¹⁰ Pearson, 'The Lime Industry in Australia', 28.

¹¹ Pearson, 'The Lime Industry in Australia', 31.

¹² Harrington, *An archaeological and historical overview of limeburning in Victoria*, 14.

¹³ Carne and Jones, *The Limestone Deposits of New South Wales*, 12.

¹⁴ Pearson, 'The Lime Industry in Australia', 32.

¹⁵ Peggy Brock, 'North Flinders Ranges' in *Colonialism and its Aftermath: a History of Aboriginal South Australia*, ed. Peggy Brock and Tom Gara (Wakefield Press, 2017), 245.

¹⁶ Peggy Brock, 'North Flinders Ranges', 245.

¹⁷ Peter Bell, 'Beltana State Heritage Area: History', in *Flinders Ranges Heritage Survey: Volume 6 Towns* ed. Austral Archaeology and Donovan and Associates, prepared for the Department of Environment and Natural Resources (1995), 6.

¹⁸ Peter Scriver, 'Mosques, Ghantowns and Cameleers in the Settlement History of Colonial Australia', *Fabrications* 13, no.2 (2004): 23-24.

¹⁹ Kevin T. Livingston, 'Charles Todd: powerful communication technocrat in colonial and federating Australia', *Australian Journal of Communication* 4, no.3 (1998): 5.

²⁰ Ivan Hull, *The Rise and Fall of Beltana, A Settlement Study* (Ivan K. Hull, 1973), 6; Bell, 'Beltana State Heritage Area: History', 4.

²¹ Aird and Klassen, *Beltana*, 134-136.

²² South Australia Surveyor Generals Office, 1881, National Library of Australia, nla.obj-231952457-1.

²³ Austral Archaeology and Donovan and Associates, 'Flinders Ranges Heritage Survey Volume 8 Mining Places', prepared for the Department of Environment and Natural Resources (1995), 8-9.

²⁴ Ellis, 'Beltana South Australia', 99.

²⁵ Bell, 'Beltana State Heritage Area: History', 4.

²⁶ For example, the lime kilns at Merna Mora Station and Windy Creek were built for this purpose. 'Old Stone Kilns', Merna Mora Station, accessed 6 March 2026, <https://www.mernamora.com.au/old-stone-kilns/>; 'A Trip to Pole Creek and the Strangways Spring Railway', *The Port Augusta Dispatch, Newcastle and Flinders Chronicle*, 31 August 1885, 2; 'The history of the bridges of the Pichi Richi Railway: part 1', Pichi Richi Railway, accessed

10 March 2026, <https://www.pichirichirailway.org.au/history/permanent-way-and-bridges/history-bridges-of-pichi-richi-railway-part-1>

²⁷ Aird and Klassen, *Beltana*, 123-131.

²⁸ Bell, 'Beltana State Heritage Area: History', 5.

²⁹ Ellis, 'Beltana South Australia', 97-99.

³⁰ This includes the telegraph station, the Beltana Hotel, the police station and the Royal Victoria Hotel.

³¹ Carne and Jones, *The Limestone Deposits of New South Wales*, 12.

³² Harrington, *An archaeological and historical overview of limeburning in Victoria*, 9.

³³ Jane Harrington, *An archaeological and historical overview of limeburning in Victoria*, 14.

³⁴ Graham Aird and Nick Klassen, *Beltana, The Town That Would Not Die* (Lutheran Publishing House, 1984), 165.

³⁵ 'Butcher's House', Beltana Interpretative Signage; Aird and Klassen, *Beltana, The Town That Would Not Die*, 49.

³⁶ Bell, 'Beltana State Heritage Area: History', 6.

³⁷ Hull, *The Rise and Fall of Beltana*, 36.