BETTER HERITAGE INFORMATION
SUMMARY OF STATE HERITAGE PLACE

COMMENTARY ON THE LISTING

Description and notes with respect to a place entered in the South Australian Heritage Register in accordance with either the *South Australian Heritage Act 1978* or the *Heritage Places Act 1993.*

The information contained in this document is provided in accordance with s14(6) of the *Heritage Places Act 1993*.

REGISTERED NAME:	Former CSIR/CSIRO Field Research Station, including shed, water tank, yard fencing and gates	**PLACE NO.:** 16230
ALSO KNOWN AS:	Former CSIRO Field Research Station (including shed, water tank, yard fencing and gates)	
ADDRESS:	Bunganditj Country Lot 1 Nora Creina Road, Robe SA 5276 CT 5464/91 F15911 A1 Hundred of Waterhouse	

CONFIRMED IN THE SOUTH AUSTRALIAN HERITAGE REGISTER:

12 February 1998

STATEMENT OF HERITAGE SIGNIFICANCE

The Former CSIR/CSIRO Field Research Station at Robe demonstrates South Australia's role in the advancement of applied science to cure widespread animal disease impacting on agricultural productivity. Between 1935 and 1955, it was at the Field Research Station at Robe that Council for Scientific and Industrial Research (CSIR), later Commonwealth Scientific and Industrial Research Organization (CSIRO) scientists, investigated and cured coast disease, a wasting disorder that affects sheep and other livestock that graze in coastal regions. The Field Research Station also has special associations with South Australian scientist Dr Hedley Marston and his team, and with the CSIR/CSIRO. The research and discoveries conducted by Dr Marston and his team were recognised internationally and helped legitimise the CSIR/CSIRO as an institution devoted to using applied science to advance industrial and commercial progress.

RELEVANT/INDICATIVE CRITERIA (under section 16 of the Heritage Places Act 1993)

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

The Former CSIR/CSIRO Field Research Station at Robe demonstrates the important role South Australia played in the advancement of applied science to solve widespread animal disease and subsequently improve agricultural production. Between 1935 and 1955, it was here that South Australian scientists working for the Council for Scientific and Industrial Research (CSIR), later the Commonwealth Scientific and Industrial Research Organization (CSIRO), investigated and cured 'coast disease', a wasting disorder affecting sheep and other livestock that grazed in coastal regions.

Dr Hedley Marston and his team of scientists within the Division of Animal Nutrition conducted experiments at the Field Station that confirmed that coast disease was caused by a deficiency of the trace metal cobalt. They also discovered that a lack of copper was responsible for 'steely wool', wool that lacked 'crimp', developed a thick secondary layer, and assumed a silky appearance. Marston and his team subsequently undertook experiments at the Field Research Station to explore the best method to administer cobalt to sheep. The outcome of this process was the creation of a slow-release tablet containing cobalt that rested in a sheep's rumen, which featured a steel 'grinder' to prevent calcium phosphate developing on the tablet's surface that in turn reduced the absorption of the cobalt. Their discoveries were ground-breaking and had international reach. The cobalt tablet and grinder is now a widely available product sold around the world.

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

The Field Station has a special association with Dr. Hedley Marston and his team of scientists and with the Council for Scientific and Industrial Research (CSIR, 1926 - 1949), later the Commonwealth Scientific and Industrial Research Organization (CSIRO, 1949 -). Marston and the researchers under his leadership worked within the Division of Animal Nutrition, later renamed and reorganised several times, and were based in South Australia. Their research into coast disease at the Field Research Station in Robe was ground-breaking and led to breakthroughs in biochemistry and animal nutrition. Their findings and solutions were heralded internationally and were in part responsible for legitimising the CSIR/CSIRO as an institution devoted to using applied science to advance industrial and commercial progress.

SITE PLAN

Former CSIR/CSIRO Field Research Station, including shed, water tank, yard fencing and gates **PLACE NO.:** 16230

Lot 1 Nora Creina Road, Robe SA 5276

Former CSIR/CSIRO Field Research Station, including shed, water tank, yard fencing and gates: Lot 1 Nora Creina Road, Robe SA 5276; CT 5464/91 F15911 A1; Hundred of Waterhouse. Image shows location of the Field Research Station relative to Robe, SA.

N ↑

LEGEND

Approximate location of CSIR/CSIRO Field Research Station, including shed, water tank, yard fencing and gates

SITE PLAN

Former CSIR/CSIRO Field Research Station, including shed, water tank, yard fencing and gates **PLACE NO.:** 16230

Lot 1 Nora Creina Road, Robe SA 5276

Former CSIR/CSIRO Field Research Station, including shed, water tank, yard fencing and gates showing casatral boundaries and elements of significance (left); higher resolution Google Maps satellite image (left).

Source: Google Maps, 2023 (right)

N ↑

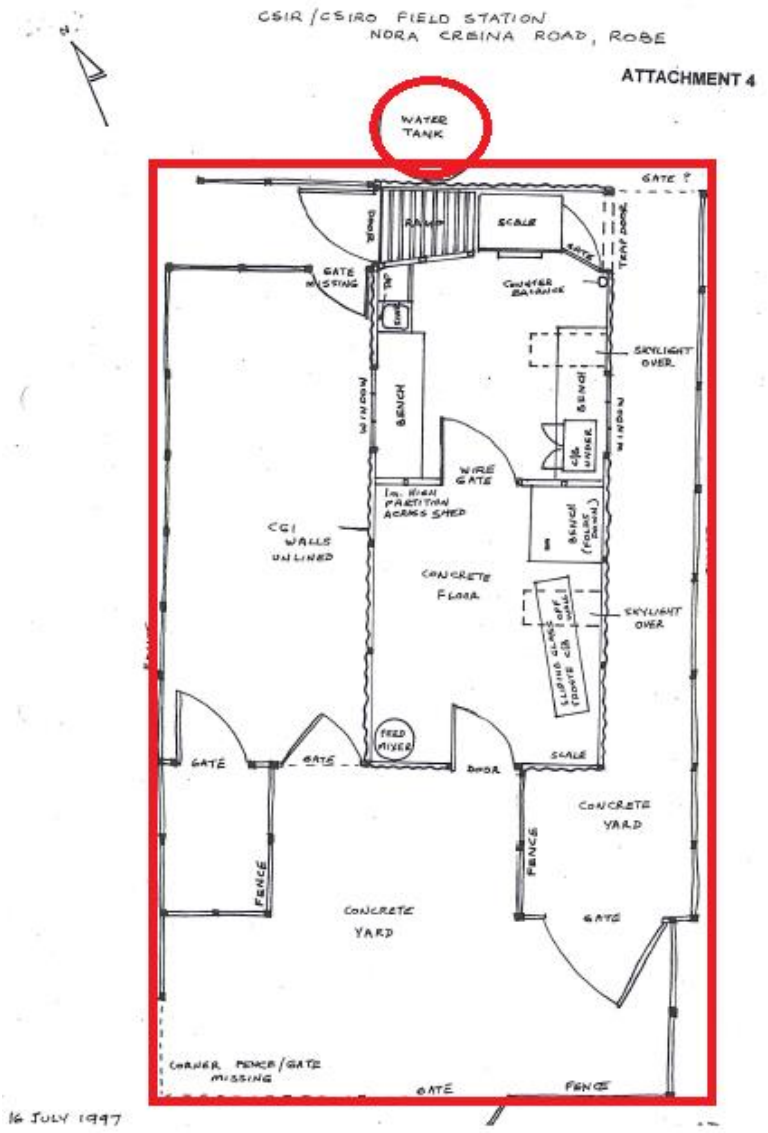
LEGEND

Parcel boundaries (Indicates extent of Listing)
Outline of Elements of Significance for State Heritage Place

SITE PLAN

Former CSIR/CSIRO Field Research Station, including shed, water tank, yard fencing and gates **PLACE NO.:** 16230

Lot 1 Nora Creina Road, Robe SA 5276



Site plan from 16 July 1997 with elements of significance highlighted.

N

LEGEND

Outline of Elements of Significance for State Heritage Place

Physical Description

The CSIRO Field Research Station is a facility comprising a rectangular shed surrounded by concrete yards of varying sizes to the east, south, and west.

The building is a timber framed structure clad in corrugated galvanised steel. It has a flat roof made of the same material with two skylights on the eastern side. The entrance door is ledged and braced and painted white. Another timber door is located on the west elevation towards the northern end. There are two timber-framed multi-pane awning windows, one on the eastern elevation and one on the western elevation.

The yards are enclosed by multiple timber fences creating both the perimeter and the holding pens within. A series of steel-framed wire mesh gates provide access to the property and its several pens and yards. A cylindrical water tank made of corrugated galvanised steel is located at the rear of the building to the north.

The inside of the building is divided into two sections separated by wooden fencing with a steel-framed wire mesh gate in between. The floor is concrete and there are benches, cupboards, and a tap and sink along the walls. Additionally, there are several instruments and devices within the building for conducting scientific research, most notably a trap door with a pulley and counterweight.

Elements of Significance:

Elements of heritage significance include (but are not necessarily limited to):

- timber-framed corrugated galvanised steel building,
- timber fencing marking the perimeter and internal holding pens and yards,
- internal concrete flooring and external concrete surfacing,
- steel-framed wire mesh gates,
- water tank,
- original fixtures and equipment.

Elements not considered to contribute to significance of place include (but are not necessarily limited to):

- non-original signage.

History of the Place

'Coast Disease'

Wool production has been one of Australia's staple industries for most of its history. Indeed, the exportation of merino wool during the nineteenth and twentieth centuries was a principal source of income and prosperity, so much so that Australia was said to have 'rode on the sheep's back'. While economic historians have shown that the industry's fortunes have fluctuated considerably over time and that other industries have also been historically vital, particularly mining, it remains that the Australian economy has relied on wool to an enormous extent.[1]

Like the other colonies and states, South Australia relied heavily on exporting merino wool, primarily to Britain. The industry commenced alongside the colony's founding in 1836, with the South Australian Company's importation of merino sheep from Saxony, Germany. Encouraged by legislation such as the *Waste Land Act 1842* and its later amendment in 1869, the *Strangeways Act*, large and small pastoralists quickly spread across the colony over the next few decades, a process that exacerbated the wholesale dispossession of First Nations peoples. Much of the land was used for sheep grazing and wool production. By 1843, 1.8 million kilos of wool had been exported. Around four years later, half of the colony's South East territory had been settled under pastoral licence, which went on to produce almost half of the wool in South Australia.[2]

Despite this growth, pastoralists located along the colony's coastline, particularly in the South East, soon discovered that their livestock, including horses, cattle and sheep, did not take well to the land, despite it being well watered and grassy.[3] Sheep were especially affected, their health deteriorating drastically, resulting in frailty and often death. The wool would lack 'crimp', develop a thick secondary layer, and assume a silky appearance. The condition came to be known as 'coast disease', or 'coasty' for short, and the wool was described as 'steely', 'stringy', 'straight', or 'silky'.[4]

Coast disease was a serious condition and threatened the young colony's pastoral expansion.[5] Accordingly, the government formally acknowledged the condition as early as the 1860s. In his annual report for 1861, Henry Thomas Morris, the Chief Inspector of Sheep, observed that:

> [o]n the coast line, from about 10 to 15 miles back, the stock on many of the runs are subject to what is there termed the coast disease, generally attributed to a poisonous herb, but I believe it has never been determined what it is.[6]

The Chief Inspector of Sheep continued to monitor coast disease over the following years.[7]

As indicated by Thomas' statement, the cause of coast disease was not understood. Explanations included the ingestion of a 'poisonous herb',[8] a lack of 'phosphate of

lime [calcium pyrophosphate]' in the soil,[9] and, as late as 1917, intestinal worms.[10] The latter explanation was provided by the South Australian Government Veterinarian Surgeon, C. A. Loxton, and persisted for some time, despite the presence of intestinal worms in comparatively healthy sheep outside of the South East.[11] Complicating the matter further, coast disease or 'coasty' was used as a catchall term to describe a raft of afflictions. Stephen Smith notes that if 'the cause of any illness or deaths were unknown or an explanation for any losses was needed then coast disease was blamed'.[12] Thus, not only was the cause of the disease misunderstood, but so too was the disease itself.

For decades, the only viable workaround to the problem was to periodically move the sheep inland and to relocate them back to their coastal pastures when required.[13] This solution was laborious and costly, given that farmers had to both transport their livestock back and forth and had to either own or rent additional land.[14] Evidently, this 'solution' left a lot to be desired.

The CSIR Field Station at Robe and Overcoming Coast Disease

The Council for Scientific and Industrial Research (CSIR) was established by the Commonwealth Government in 1926, later becoming the Commonwealth Scientific and Industrial Research Organization (CSIRO) in 1949. Its creation followed a series of measures taken by the Commonwealth to develop a scientific and industrial research agency, including the founding of the Advisory Council of Science and Industry in 1916, and the Institute for Science and Industry soon after in 1920. As indicated by the titles given to these organisations, they were tasked primarily with conducting applied science to foster industrial and economic development. Due to the economic importance of agriculture, much of the CSIR's early research was devoted to generating solutions and innovations within this sector.[15]

In 1927, a year after the CSIR was founded, the organisation established five internal divisions, including the Division of Animal Nutrition. The Division was based in Adelaide under the direction of Professor Thorburn Brailsford Robertson.[16] The division hired biochemist Hedley Ralph Marston the following year, who would soon go on to become the acting-chief after Robertson's death in 1930. This role would be the first of several leadership positions held by Marston over the decades that followed. He was placed in charge of the animal nutrition laboratory in 1936, now within the Division of Animal Health and Nutrition, and in 1944 was assigned chief of the division, which he renamed the Division of Biochemistry and General Nutrition.[17]

Reflecting the economic importance of wool, the Division of Animal Nutrition was chiefly concerned with the health of grazing sheep.[18] In the early 1930s, only a few years after it was established, the Division began investigating coast disease.[19] Taking cues from previous research that indicated that wasting diseases in plants and animals were caused by nutritional deficiencies,[20] E. W. Lines, Dick Thomas, and other

CSIR researchers began investigating coast disease at a property on Kangaroo Island. They selected Kangaroo Island after Thomas identified that it was covered by calcareous soils that had developed after shell fragments were blown inland from the exposed continental shelf during the Ice Age. Thomas surmised that such soil was lacking certain trace elements.[21]

Specifically, these researchers tested the nutritional effects that these elements, and the lack thereof, had on sheep. After other researchers found that rats produced high levels of red blood cells after ingesting cobalt, subsequent tests at laboratory pens at the University of Adelaide experimented with the substance on sheep.[22] Lines discovered that administering cobalt nitrate to sheep afflicted with coast disease, which were now identified to be anaemic, responded well to the treatment. It therefore appeared that coast disease was caused by the lack of cobalt in the calcareous soil common along the coastline.[23]

In 1934, though initially sceptical of the research, Hedley Marston was swayed by the early results and took command of the program by 1935, expanding its scope and scale. Marston was so enthusiastic about the findings that he declared, perhaps prematurely, that cobalt deficiency was responsible for coast disease as a matter of fact. His announcement was made to the Australian and New Zealand Association for the Advancement of Science (ANZAAS).[24]

Recognising the importance of these findings, the Government of South Australia announced in 1934 it would contribute £250 each year to facilitate research into coast disease, then a substantial sum.[25] The following year in 1935, Marston and his team established a field research station at Robe in the South East on land provided by local farmer Bob Dawson and his family, who also supplied sheep and went on to tend and observe those under experimentation. The land selected at Robe was perfect due to the high density of calcareous soil, and for the high number of ewes already grazing in the area.[26] Marston described the location as ideal and commented that:

> The relatively rapid onset of the malady in mature sheep grazed under strict control on this site had proved the usefulness of the area for subsequent experimental work; and, as 40 ewes in various stages of coast disease were available, it was decided to study in the field the capacity of a series of therapeutic measures to cure or arrest the progress of the disease.[27]

Ewes were favoured because the effects of coast disease were most pronounced during pregnancy. [28]

The research conducted at the field station, performed by Marston, I. W. McDonald, H. J. Lee, R. Dawson, and D. W. Dewey,[29] experimented with infusions of cobalt, iron and copper, and combinations thereof. The findings confirmed that cobalt deficiency was the primary cause of coast disease, later found by Dr Mary Dawbarn, Denise Hine

and Patricia Hughes to be essential in the production of vitamin B12.[30] While iron was found to have made little difference, the research discovered that copper did contribute to restoring a sheep's condition. Marston observed that '[t]reatment with cobalt, either in conjunction with copper or with copper and iron, brought about manifest improvement and restored most of the sheep to apparently normal health'.[31] In time, the lack of copper was found to have been the primary reason 'coasty' sheep formed 'steely wool'.[32]

Once the researchers had discovered the cause and solution to the problem, they turned their attention to how they could administer the necessary combination of cobalt and copper to sheep. While covering pastural land with these elements could perhaps work in certain contexts,[33] it was then impracticable to do so on the huge tracts of land coated with calcareous soil.[34] After much experimentation, the 'cobalt pellet' was eventually created. Once ingested, the pellet would rest in a sheep's rumen, or the first stomach chamber, and would gradually release cobalt and copper. After it was found that the pellet's effectiveness was compromised by the build-up of calcium phosphate on its surface, a steel 'grinder' was subsequently developed which protected the pellet.[35]

By coincidence, it was also discovered that the cobalt in the pellet prevented sheep from developing the neurological disorder known as 'Phalaris staggers', caused by the ingestion of the plant *Phalaris tuberosa*, better known as Harding grass.[36] Given that 'coast disease' was once a catchall term and sometimes attributed to a 'poisonous herb', it may be that the CSIR and CSIRO researchers had inadvertently solved 'coasty' in all, or at least some of its colloquial forms.

Whatever the case, the applied science conducted at the field station led to profoundly important discoveries and innovations. It drew attention to the vital role that copper and cobalt play in the health of grazing animals, which includes but is not limited to sheep.[37] These findings have had international reach. Further, the cobalt pellet and its attendant grinder entered commercial production and continue to be sold around the world.[38]

The Triumph of the CSIR and CSIRO

The discoveries made by the CSIR and CSIRO's biochemists, nutritionists and veterinarians were not only scientifically profound, but also helped to legitimise the organisation itself. Importantly, they demonstrated the organisation's capacity to improve industrial efficacy and bolster the economy via applied science. Historian C. B. Schedvin observes that:

> The cobalt discovery was a major boost for CSIR. After almost a decade of basic research on nutritional physiology in animals, the Adelaide group had been able to contribute to understanding in a way that seemed to offer large economic

> benefits. Cobalt was by no means the first nor the most spectacular scientific advance linked with the Council's name. … But within the organization [sic] the cobalt discovery was central in the emergence of myth – the myth that basic science had been the most powerful force in the scientific and public success of the organization.[39]

Schedvin clarifies that this 'myth' was not necessarily untrue, but more a simplified lore that helped to establish and affirm the CSIR and CSIRO's social and economic purpose.[40]

Beyond what these discoveries did for the organisation, both internally and publicly, recognition for the people behind them has been international in scope. For instance, Perry Stout, a researcher from the US who had visited Australia and worked with the CSIR, commented that he had 'wondered … if Australians shall ever know "how much they owe to so few"'. He added that early pioneers, 'so highly thought of in Australia, travelled over the land', whereas 'recent ones [had] looked underneath its surface to bring forth great new wealth in the form of plants and animals'.[41] Furthermore, in 1949, Marston was elected as a fellow of the Royal Society in London based upon his research. [42]

Within South Australia, their work continues to be recognised, perhaps most visibly via the conservation of the research station at Robe. The National Trust of South Australia took possession of the station and erected a plaque at the site which reads:

> THIS PLAQUE COMMEMORATES THE C.S.I.R.O. SCIENTISTS WHOSE RESEARCH BETWEEN 1836 AND 1976 SHOWED LACK OF THE TRACE ELEMENT COBALT TO BE THE CAUSE OF COAST DISEASE IN RUMINANTS AND OTHER DEFICIENCY DISEASES OCCURRING THROUGHOUT THE WORLD.[43]

In 1997, after preparing an entry for Marston for the Australian Dictionary of Biography, Dr Roger Cross nominated the site as a State Heritage Place. It was State heritage listed in February 1998. The National Trust of South Australia continues to manage and care for the research station.

Chronology

Year	Event
1861	Henry Thomas Morris, the Chief Inspector of Sheep, mentions coast disease in his annual report.
1916	The Commonwealth Government establishes the Advisory Council of Science and Industry (ACSI).
c.1917	The South Australian Government Veterinarian Surgeon, C. A. Loxton, attributes coast disease to intestinal worms in sheep.

1920 The Institute of Science and Industry succeeds the ACSI.

1926 Commonwealth legislation establishes the Council for Scientific and Industrial Research (CSIR).

1927 The CSIR establishes five divisions, including the Division of Animal Nutrition, to be based in Adelaide.

1928 Hedley Marston joins the CSIR's Division of Animal Nutrition.

Scientists in Western Australia begin investigating 'Denmark' wasting disease in cattle.

Sir Arnold Theiler, a veterinarian from South Africa, suggests to Australian scientists that phosphate deficiency may be responsible for coast disease.

Around this time, chemist and geologist for the CSIR, Dick Thomas, suspects that coastal soil in the South East may lack trace metals.

Dr C.S. Piper and Geoffrey Samuel from the Waite Institute discover that 'roadside takeall' and 'grey speck disease', a plant disease, is caused by a lack of magnesium.

c.1930 CSIR begins investigating the potential connection between trace metals and coast disease at Kangaroo Island.

1934 Hedley Marston and colleagues conduct experiments at the CSIR's headquarters located at the University of Adelaide. Sheep afflicted with coast disease are dosed with cobalt and their condition improves.

Animal nutrition officer, Eric Underwood, visits South Australia from Western Australia. Underwood and John Filmer had been investigating Denmark wasting disease in cattle for the Western Australian Department of Agriculture. They identified that a lack of trace metals caused the disease but had not discovered which ones. Marston and his team share their results. Underwood and Filmer deliver cobalt to cattle and find the solution to the disease.

1935 Hedley Marston announces to Australian and New Zealand Association for the Advancement of Science (ANZAAS) that cobalt deficiency is responsible for coast disease.

The CSIR Field Station is erected at Robe on land provided by local farmer Bob Dawson and his family.

1936 The CSIR creates the Division of Animal Health and Nutrition by amalgamating previous divisions, including the Division of Animal Nutrition.

1938 Hedley Marston and his colleagues identify that coast disease in sheep relates to a lack of cobalt and copper.

1945 Hedley Marston becomes the chief of the CSIR's Division of Biochemistry and Nutrition, formerly the Division of Animal Health and Nutrition.

1949 The Council for Scientific and Industrial Research (CSIR) renames itself as the Commonwealth Scientific and Industrial Research Organization (CSIRO).

1950 Bob Dawson receives an MBE for his contributions to the CSIR's research conducted at Robe.

c.1950s Dr Mary Dawbarn, Denise Hine and Patricia Hughes discover that cobalt deficiency reduces the production of vitamin B12 in the rumen of sheep.

1951 American researchers identify that vitamin B12 can prevent cobalt deficiencies.

1952 John Lee and Bob Kuchel of the CSIRO discover that sufficient levels of cobalt in a sheep's rumen could prevent 'phalaris staggers', a neurological condition caused by the ingestion of *Phalaris tuberosa*, a plant used for grazing.

1955 Perry Stout, an American researcher visiting Australia on a Fulbright Fellowship, suggests to John Lee that cobalt should be administered to sheep via a slow-release capsule devise placed in the rumen.

1958 Hedley Marston, Doug Dewey, V. Stephens, R. E. Kuchel and John Lee develop the cobalt pellet, as well as a steel 'grinder' to prevent calcium phosphate developing on the pellet's surface.

1965 Hedley Marston dies of uraemia on 25 August.

The Division of Nutritional Biochemistry replaces the Division of Biochemistry and Nutrition.

1976 Research at the CSIR/CSIRO Field Research Station ceases.

1998 Former CSIR/CSIRO Field Research Station is confirmed as a State Heritage Place on 12 February.

2007 Heritage SA approves Development Application 822/120/06 to place signage at the 'CSIRO Shed', i.e., the Former CSIR/CSIRO Field Research Station.

2019 Heritage SA approves Development Application 822/86/19 to replace the boundary fence at Lot 1, Nora Creina Road, Robe. The proposed fence is deemed to be acceptable as its materials 'are consistent with the original materials'.

2022 Vic Dawson turns 100. With his father Bob Dawson, Vic contributed to the CSIR's research conducted at Robe.

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'Coast Disease', *South Eastern Times* (Millicent), 1 March 1927, p. 1.

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'"Steely Wool": Caused by Copper Deficiency', *Nerrandera Argus and Riverina Advertiser* (NSW), 18 February 1947, p. 1.

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SITE DETAILS

Former CSIR/CSIRO Field Research Station, including shed, water tank, yard fencing and gates **PLACE NO.:** 16230

Lot 1 Nora Creina Road, Robe SA 5276

DESCRIPTION OF PLACE:	Site featuring a simple timber-framed galvanised steel shed, water tank, sheep yards and pens enclosed with timber fencing and gates.	
DATE OF CONSTRUCTION:	1936	
REGISTER STATUS:	Confirmed 12 February 1998	
CURRENT USE:	Historic site, 1976 -	
PREVIOUS USE(S):	CSIR/CSIRO research field station, 1936 - 1976	
LOCAL GOVERNMENT AREA:	District Council of Robe	
LOCATION:	**Street No.:**	Lot 1
	Street Name:	Nora Creina
	Town/Suburb:	Robe
	Post Code:	5276
LAND DESCRIPTION:	**Title Reference:**	CT 5464/91 Lot 1 F15911 A1
	Hundred:	Waterhouse

PHOTOS

Former CSIR/CSIRO Field Research Station, including shed, water tank, yard fencing and gates **PLACE NO.:** 16230

Lot 1 Nora Creina Road, Robe SA 5276

Entrance to the shed showing entrance, signage, a section of the concrete yard, timber fencing, and steel-framed wire gates, April 2003.

Source: DEW Files

The Research Station showing new wooden fences, 2022.

Source: DEW Files

PHOTOS

Former CSIR/CSIRO Field Research Station, including shed, water tank, yard fencing and gates **PLACE NO.:** 16230

Lot 1 Nora Creina Road, Robe SA 5276

Front and western side of the Research Station showing both doorways, wooden fencing and concrete surfacing, 2022.

Source: DEW Files

Water tank at the rear of the Research Station, 2022.

Source: DEW Files

PHOTOS

Former CSIR/CSIRO Field Research Station, including shed, water tank, yard fencing and gates **PLACE NO.:** 16230

Lot 1 Nora Creina Road, Robe SA 5276

Inside of the shed facing the front entrance, 2022.

Source: DEW Files

Inside of the shed facing towards the west, April 2003.

Source: DEW Files

PHOTOS

Former CSIR/CSIRO Field Research Station, including shed, water tank, yard fencing and gates **PLACE NO.:** 16230

Lot 1 Nora Creina Road, Robe SA 5276

Inside of the shed facing towards the east, April 2003.

Source: DEW Files

Detail view of the window on the eastern side, 2022.

Source: DEW Files

PHOTOS

Former CSIR/CSIRO Field Research Station, including shed, water tank, yard fencing and gates **PLACE NO.:** 16230

Lot 1 Nora Creina Road, Robe SA 5276

Scales and trap door inside the shed, 2022.

Source: DEW Files

Rear entrance on the western side showing fencing and gate, 2022.

Source: DEW Files

Rear door of the shed, 2022.

Source: DEW Files

Detail of the rear door showing weather damage, 2022.

Source: DEW Files

[1] See Ian W. McLean, *Why Australia Prospered: The Shifting Sources of Economic Growth* (Princeton: Princeton University Press, 2013), pp. 108-116.
[2] Roger André, 'Wool', SA History Hub, History Trust of South Australia, 19 March 2014. https://sahistoryhub.history.sa.gov.au/subjects/wool
[3] S. J. Edmonds, 'Zoology' in *Ideas and Endeavours: The Natural Sciences in South Australia*, eds. Twidale, C. R., Tyler, M. J., and Davies, M. Adelaide: Royal Society of South Australia, 1986: p. 162
[4] '"Steely Wool": Caused by Copper Deficiency', *Nerrandera Argus and Riverina Advertiser* (NSW), 18 February 1947, p. 1.
[5] Edmonds, 'Zoology', p. 189.
[6] Henry Thomas Morris quoted in 'The Sheep Runs of South Australia', *South Australian Advertiser* (Adelaide), 15 July 1861, p. 3.
[7] For instance, see 'Report from the Chief Inspector of Sheep', 10 August 1875, in 'Government Gazette', *South Australian Register* (Adelaide), 1 September 1876, p. 7.
[8] 'The Weekly Chronicle', *South Australian Weekly Chronicle* (Adelaide), 21 March 1863, p. 2.
[9] 'Coast Disease [letter to the editor]', *Narracoorte Herald*, 11 September 1888, p. 4.
[10] '"Coast Disease", *Observer* (Adelaide), 11 August 1917, p. 6.
[11] 'Coast Disease', *South Eastern Times* (Millicent), 1 March 1927, p. 1.
[12] Stephen Smith, *A History of Early South Australian Livestock Introductions, Stock Diseases and Associated Subjects* (Adelaide: Department of Agriculture, 1986), p. 21. Also see 'Crespin', 'Australian Farming: Coast Disease', *Port Lincoln, Tumby and West Coast Recorder*, 23 August 1905, p. 2.
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