SUMMARY OF STATE HERITAGE PLACE

REGISTER ENTRY

Entry in the South Australian Heritage Register in accordance with the *Heritage Places Act 1993*

NAME: Tantanoola Caves Complex **PLACE NO.:** 26555

ADDRESS: Boandik Country, Tantanoola Caves Conservation Park, 32047 Princes Highway, Tantanoola SA, 5280

CR/5772/853, H420600 S213, Hundred of Hindmarsh

STATEMENT OF HERITAGE SIGNIFICANCE

The Tantanoola Caves Complex is located along a dolomitic karst ridge featuring the only known pink dolomite caves in South Australia. The abundance and variety of types of decorations including drapery, helictites, flowstones and wedding cake formations found in Tourist Cave and Lake Cave are impressive in their density and complexity. The Tantanoola Cave Complex including Tourist Cave, Lake Cave, Up-and-Down Rocks and 16 smaller karst features have a high potential of yielding new scientific information about the natural history of South Australia and specifically the geological and speleological development of the South East. Knowledge of the dolomite presence will also contribute to a broader understanding about the processes, likely volcanic, required to convert limestone to dolomite, and the regional impact of volcanism.

STATEMENT OF GEOLOGICAL DESIGNATION

The Tantanoola Caves Complex encompasses an extensive dolomite exposure known as the Up-And-Down-Rocks. This small area is the only substantial pink dolomite exposures within the State.

No other South Australian dolomite exposures contain substantial cave systems present within the dolomite, whereas the Up-and-Down rocks and surrounding areas contain 19 individual karst features including two major caves, the Tantanoola Tourist Cave and Lake Cave.

The catalyst for the formation of dolomite from limestone is not well understood. The caves within the Tantanoola Caves Complex present a unique opportunity to yield important information about the development of dolomite within the South-East as

well as the South East's geological history. The Tantanoola Caves Complex also records marine transgressions, regressions and various uplift and volcanic events that happened throughout the previous 5 million years.

Elements of Significance:

The significant geological features contained within the complex are:

- Extensive pink dolomite exposures throughout the complex,
- various karst features, including the major cave chambers and Up-And-Down Rocks,
- evidence of geological history recorded within the fabric of the place,
- potential evidence of local volcanic activity with a high likelihood for scientific yield

STATEMENT OF SPELEOLOGICAL DESIGNATION

The Tantanoola Caves Complex is an area containing 19 karst features on a limestone/dolomite ridge exposure. The caves present within the Conservation Park provide excellent exposures of pink dolomite, the result of an iron component linked to local volcanism. They are the only examples of pink dolomite caves in the State and provide ample opportunity for scientific research.

Lake Cave is recognised as a Special Purpose Reference Cave based on the *Principles of Karst Management*, demonstrating that it contains exceptional scientific value. The cave retains a high level of integrity and intactness.

Both caves are highly decorated for their size, containing varied and abundant cave formations, some of which are rare and appear in high concentration. These decorations are continuing to form and grow. Other formations contain information pertaining to previous infill events and demonstrate the rich history of the caves. The dolomite component of the caves will provide high scientific value in understanding the formation of cave decorations, the processes that alter limestone to dolomite and impacts on the surrounding landscape.

Elements of Significance:

The significant speleological features contained within the complex are:

- Numerous cave features within substantial pink dolomite rock,
- extensive speleothems including 'wedding cake' column formations, draperies, helictites and flowstones,
- Lake Cave recognised as a Special Purpose Reference Cave for high likelihood to yield scientific information,
- preserved natural sediments, collapses and rockfall formations,
- fossils embedded within the cave walls and evidence of animal scratchings,
- type locality for the cave cricket *Speleotettix tindalei*.

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

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

The Tantanoola Caves Complex contains geological and speleological information of significance to South Australia. The Tantanoola Caves Conservation Park contains Up-and-Down Rocks, Tantanoola Tourist Cave and Tantanoola Lake Cave. Together they demonstrate aspects of the State's natural history over a period of approximately one million years - namely its geological and speleological history including:

- Demonstrating marine transgressions and regressions that caused groundwater to initially form the caves by dissolution of the surrounding rock.
- Formation of dolomite – most likely depicting local historical volcanic activity.
- Precipitated 'flowstones' and decorations – producing 'growth' layers in some cases 'growing' over 'fill', demonstrating environmental stages of development.
- Deposited 'fill' sediment – demonstrating instances of the Tourist cave opening allowing fossil and aeolian (wind-blown) deposition.

The site is capable of yielding information regarding each of these aspects including the formation of the special local pink dolomite which is a renowned building stone. Dolomite formation occurs through a process known as metamorphism through which, the chemical composition and crystalline structure of the limestone is modified by the replacement of calcium ions by magnesium ions. Dolomite at the Tantanoola caves can yield scientific evidence about the conversion of limestone to dolomite, volcanic activity and the chemical changes necessary to form the material. Dating of the dolomite, the internal formations and sediments can also produce a geological time frame applicable across the region, contributing important new explanations for the development of this South Australian landscape.

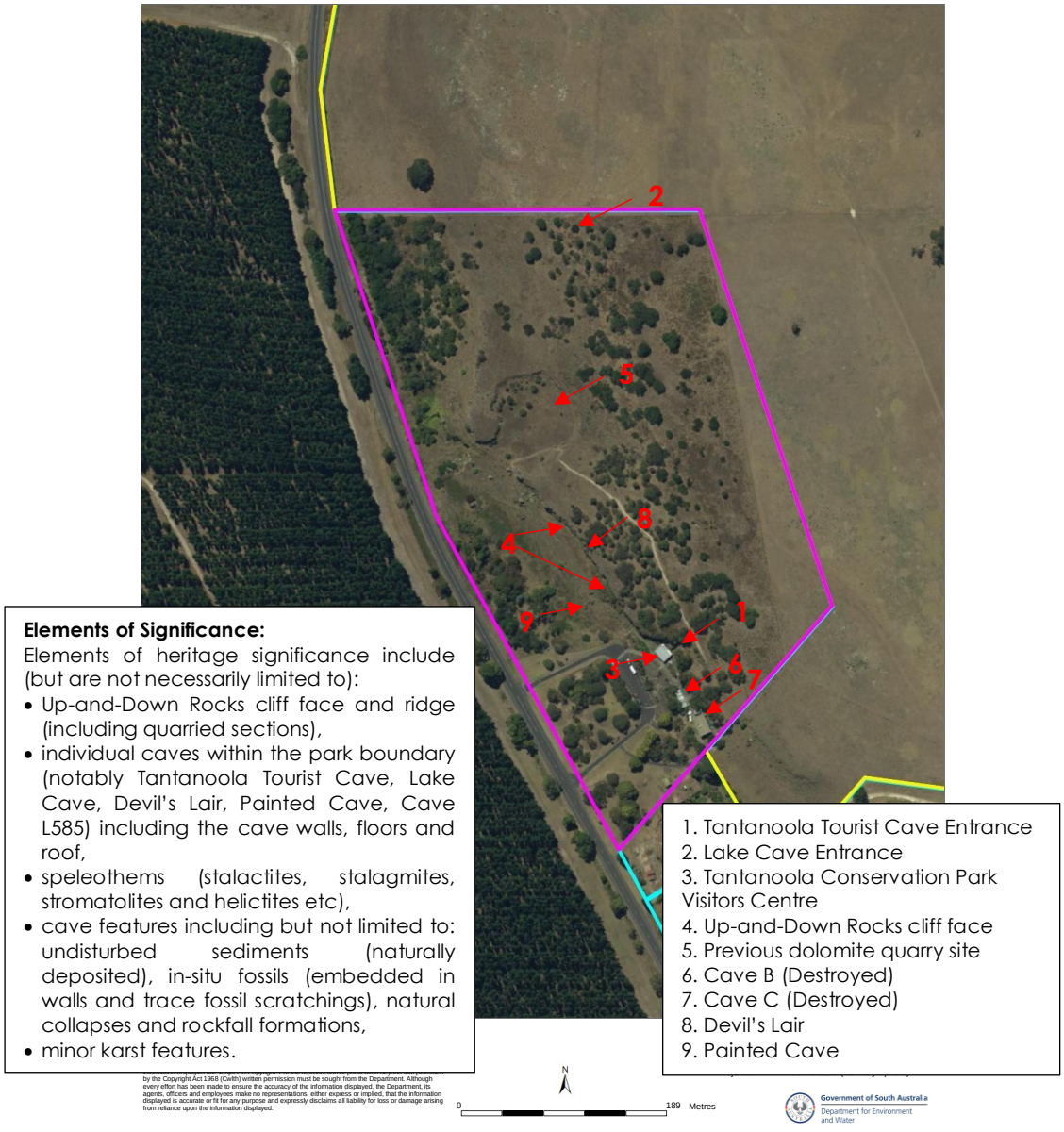
Tantanoola Caves complex is the only locality in South Australia where the combination of the above listed geological conditions exist in comparison to the ~1,000 non-dolomite caves recorded across the Upper and Lower South-East. Tantanoola Caves Complex has the capacity to yield scientific information that will increase our understanding of the geological development of this part of the State.

Both major caves, the formations within them and the exposed groundwater within Lake Cave can provide information about local and State historical rainfall, soil composition and living organisms at the time of formation. Additionally, the high concentration of speleothems within the caves at the Tantanoola Caves Complex can yield important information about the history of speleothem formation within the cave.

SITE PLAN

Tantanoola Caves Complex **PLACE NO.: 26555**

Boandik Country, Tantanoola Caves Conservation Park, 32047 Princes Highway, Tantanoola SA, 5280



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

- Up-and-Down Rocks cliff face and ridge (including quarried sections),
- individual caves within the park boundary (notably Tantanoola Tourist Cave, Lake Cave, Devil's Lair, Painted Cave, Cave L585) including the cave walls, floors and roof,
- speleothems (stalactites, stalagmites, stromatolites and helictites etc),
- cave features including but not limited to: undisturbed sediments (naturally deposited), in-situ fossils (embedded in walls and trace fossil scratchings), natural collapses and rockfall formations,
- minor karst features.

1. Tantanoola Tourist Cave Entrance
2. Lake Cave Entrance
3. Tantanoola Conservation Park Visitors Centre
4. Up-and-Down Rocks cliff face
5. Previous dolomite quarry site
6. Cave B (Destroyed)
7. Cave C (Destroyed)
8. Devil's Lair
9. Painted Cave

Tantanoola Caves Complex, 32047 Princes Highway, Tantanoola SA
CR/5772/853, H420600 S213, Hundred of Hindmarsh

LEGEND **N ↑**

Parcel boundaries (Indicates extent of Listing)

Cadastral Boundary

Active Mining Tenements

COMMENTARY ON THE LISTING

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

Physical Description

The Tantanoola Caves Conservation Park is located adjacent to the Princes Highway in the Tantanoola district. The Tantanoola Caves Conservation Park encompasses an area of approximately 14 hectares and is one of South Australia's oldest conservation parks.[1] The park is positioned along the Tartwaup fault line, and the Tantanoola Caves are a major exposure of dolomite along the fault line. The Park contains 2 major caves, and there are 19 total karst features within the Conservation Park.[2] The karst features are formed within the Up-And-Down Rocks. These cliffs are greater than 10m above ground level and consist of tertiary Gambier limestone which has been infused and largely altered to dolomite.

A short walking trail follows the cliffs as they extend northwest into a dolomite quarry that was originally active in the 1920s. The quarry at the northern end of the Up-and-Down rocks is a large circular ~6 metre cliff face located along the cliffline on the loop trail between the Tourist cave and Lake Caves. Quarried material was used as railway ballast, flux for glass making and facing stone on buildings. The remaining non-dolomitised cream-colored limestone walls of the cliffs and caves consists almost entirely of fossilised marine fauna including shark teeth, molluscs, sponges, and echinoderms.

The most notable caves in the Conservation Park are the Tantanoola Tourist Cave and the Lake Cave. There are a number of other very small cave features. The two main caves contain 'extraordinary display(s) of cave decorations'.[3] In particular, Tantanoola Tourist Cave is noted as 'one of the most delicate and highly decorated caves in the South-East'.[4]

Tantanoola Tourist Cave

The Tantanoola Tourist Cave (also known as the Show Cave) is accessible to the public through a short excision carved into the Up-And-Down Rocks face. The chamber is locked with a sealed door when not being accessed for a tour. The cave itself is 3-6m below ground and is approximately 25m x 18m x 8m high. The visible roof and walls of the cave are speckled with orange-pink dolomite amongst abundant cave decorations. Wheelchair accessible ramps and walkways create a path that leads to the back of the cave where an artificial pool was created deeper into the single chamber to generate beautiful reflections of the ceiling. Some 'lampenflora', referring to algae and plants growing as a result of permanently installed lighting, as

well as cave invertebrates can also be found in the cave. For example, Tantanoola Tourist Cave is the type locality for the extant cave cricket *Speleotettix tindalei*.[5]

Features of the cave include:

- Sheet-like draperies,
- 'Wedding cake' column formations,
- Flowstones,
- Upturned Helictites,
- Evidence of cave collapses,
- Evidence of previous cave openings,
- Animal scratches,
- Vertebrate fossils preserved in-situ within cave walls.
- Marine fossils embedded in the limestone walls where dolomitisation has not occurred.
- Type locality for the cricket *Speleotettix tindalei.*

Tantanoola Lake Cave

Tantanoola Lake Cave (originally known as North Cave until the lake was discovered in 1957) is the second major cave within the Conservation Park. This cave is recognised as a special purpose reference cave and is locked at all times. [6]

Records of the cave describe a small entry tunnel leading into a dual chamber cave separated by a long and narrow angular crevasse. The crevasse opens out onto a spectacular balcony in the wall of a large chamber which is approximately 50m x 30m x 25m high. 15m below the balcony, is a beautiful clear freshwater natural lake approximately 30m in diameter and up to 10m deep. The depth of the cave and continued presence of dolomite demonstrates how deep the dolomite goes into the earth.

The Lake cave contains stalactites, columns, and large flowstone balconies[7] with similar precipitations as those occurring in the Tourist cave but to a lesser extent.[8] Lake Cave contains an underwater tunnel at the base of the lake. Though the first chamber of Lake Cave was frequented by cave divers for ~20-25 years, the lake chamber and tunnel has been explored by cave divers very infrequently since its discovery. These explorations determined that a short underwater passage extends back beneath the entrance tunnel continuing to a low silty room which terminates within the bounds of the Conservation Park. [9]

Tindale's smaller cave sites

In early research of the Tantanoola Caves Complex, Tindale identified 4 caves, labelled A-D.

- Cave A – now the Tantanoola Tourist Cave,
- Cave B ~40m southeast of the Tantanoola Tourist Cave. This was a tiny hole only a couple of meters long. Now demolished and built over by an amenities block,
- Cave C ~55m South-East of the Tantanoola Tourist Cave. This was a small overhang with a soil/rubble floor. Now demolished but was the focus of some fossil research,[10]
- Cave D – now called 'Devil's Lair' (L-518). A small cave with a rimstone pool approximately 8m x 5m located in the cliff face ~100m northwest of Tantanoola Tourist Cave. Believed to have once been a Tasmanian Devil den.

[Note: In his report, Tindale describes a significant Cave 'E'. However, this is in limestone located 5 kms away from the dolomite ridge in a forest and is unrelated to the caves described above.]

Other dolines (sinkholes) and karst features

Painted Cave (L519). A small cave found at the base of the Up-and-Down Cliffs and given its name due to the unusual colouring of the dolomite, varied texture of rocks and algae growth that has coloured the cave. It is referred to in only one publication as a small cave in rockfall.

Many small sinkholes and depressions in the cliffs are also present and recorded below.[11] These include unnamed but documented features that range from small undescribed holes to dolines that are 6.8 metres wide and half a metre deep.

Karst Identification no.	Type
L585	unnamed cave
LXKRM 297s1	small doline
LXKRM 297s2	doline 6.8 x 3 x 0.5m deep
LXKRM 298s1	hole 0.3 x 0.2m deep
LXKRM 298s2	hole 0.3m diameter
LXKRM 299	joint in North side of quarry
LXKRM 300	small doline in SW corner of park
LXKRM 764	0.3m diameter opening in cliff
LXKRM 765	doline 1.5m diameter x 0.3m deep
LXKRM 767	small hole
LXKRM 768	hole
LXKRM 769	hole 0.5m diameter x 0.1m deep

Elements of Significance:

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

- Up-and-Down Rocks cliff face and ridge (including quarried sections),
- individual caves within the park boundary (notably Tantanoola Tourist Cave, Lake Cave, Devil's Lair, Painted Cave, Cave L585) including the cave walls, floors and roof,
- speleothems (stalactites, stalagmites, stromatolites and helictites etc),
- cave features including but not limited to: undisturbed sediments (naturally deposited), in-situ fossils (embedded in walls and trace fossil scratchings), natural collapses and rockfall formations,
- minor karst features.

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

- built structures, including the visitor information centre,
- fence, stairs, carpark, toilets and benches near Tantanoola Tourist Cave entrance.

History of the Place

Please refer to the Assessment Report for the full history.

Approximately 37–12 million years ago (Late Eocene to Mid-Miocene)[12], an extensive limestone sea floor developed offshore of south-eastern South Australia after Australia separated from Antarctica. Between 15 and 10 million years ago, this limestone sea floor emerged from the sea due to regional tectonic uplift, becoming the large Gambier Limestone Plain (extending to the Bordertown/ Kingston area) and including the Tantanoola Conservation Park and the Up-And-Down Rocks. [13] The Tartwaup Fault (hinge line) developed along the Glenelg River-Mount Gambier-Tantanoola-Millicent region to offshore beyond Beachport.

Around 5 million years ago, extensive volcanism (termed the 'newer volcanics') commenced across the Western Victorian and South East region. Between 1–2 million years ago, the Mount Burr Range volcanoes erupted along the Tartwaup Fault. It is likely that at some time during this event or one slightly prior, the dense, hard pink building-grade dolomite ($CaMgCO_3$)[14] was formed at the Tantanoola Caves Complex.

Much later, at approximately 300 thousand years ago (ka), the area around the Up-and-Down Rocks was surrounded by a rising sea[15] from Pleistocene transgressions (sea level rise, shifting shorelines landward) which eroded part of the cliff face and may have opened a natural entrance to the Tantanoola Tourist Cave (but not into Lake Cave further back from the cliff).

Outside of the Tantanoola Tourist Cave, a scree (loose stone and sediment) slope developed and is still present as a result of deposition many years ago.[16] Eventually, sediment and partial cliff collapse deposited sufficiently for the cave entrance to be reduced to the small hole which would be discovered recorded by Europeans in 1930.

Colonial settlement and early survey

Europeans found Tantanoola Tourist Cave on the 26th of March 1930 when Boyce Lane, a 16-year-old boy, lost his ferret and investigated what was, at that point, a small hole in the cliff face with the belief that the animal had crawled inside.[17]

Following this discovery, in the same year Tantanoola Tourist Cave became a tourist destination when it became a Pleasure Resort under the *National Pleasure Resorts Act 1914*.[18] Also in 1930, 17 acres of the area surrounding the caves was proposed to be used as a 'Stone Reserve'[19]. The area near Up-and-Down Rocks was quarried for railways ballast and for road construction.

The first official record of European knowledge of Lake Cave was in a 1933 publication by anthropologist Norman Tindale for the South Australian Museum.

Eventually, however, the caves were closed for a short while due to safety concerns and a change of ownership from the local Council. Sometime before 1958, a portion of an area deeper within the Tantanoola Tourist Cave chamber was concreted over to create an artificial lake with the intent of rivalling 'The Mirror' within the Alexandra Cave at the Naracoorte Caves National Park.

In 1972, the Tantanoola Caves Complex was re-opened as a conservation park. In 1980, Up-and-Down Rocks and the two Tantanoola Caves were added to the Register of the National Estate. In 1983 a significant modification was completed in order to allow for wheelchair access – a new initiative for Australian cave visitation at the time, making it very accessible for tourism, visitational and research purposes.

Scientific Investigation and Collecting

Athol Jackson and Kevin Mott of the Cave Exploration Group of South Australia (CEGSA) undertook a seismic analysis of the Tourist Cave using geophones to determine the size and existence of any other passages within the cave after speculation that the cave continued deeper than was easily visible. The team's research identified an anomaly beyond the northeast end of the cave, determining that there is a small extension of cave beyond the well-known walls. This extension has not been mapped or further explored

Palaeontological research at the Tantanoola Caves Complex has been conducted. Findings include:

- collections from caves A-D by Tindale,1933,[20]

- collections from Tindale and Tidemann, 1967[21] from the caves complex site and stored at the South Australian Museum,[22]
- frog fossils, documented 1992 and collected as the accessibility entryway was excavated,[23]
- unidentified bird fossils,[24]
- bat fossils,[25]
- rodent subfossils,[26]
- animal scratches on the walls[27]

Chronology

Year	Event
60 Ma	Australia finally separates from Antarctica and the regional Tartwaup Fault in the Tantanoola region develops as one of many large coastal faultlines along the broken southern edge of the continent.
23-5 Ma	Miocene – South-East South Australia, Lower Murray River Basin in South Australia and entire Nullarbor Plain covered by shallow cool-water seas forming expansive sea floor of bryozoal/carbonate limestone deposits.
15-10Ma	Neogene Tectonics - limestone floor begins to be uplifted from the sea due to large regional tectonic uplift, becoming the Gambier Limestone Plain, Murray Plains and the Nullarbor Plain. In the South-East, the large Tartwaup Fault develops further along the Glenelg River - Mount Gambier-Tantanoola-Millicent region and further west offshore.
Uncertain date	Up-and-Down Rocks uplifted in a limestone anticline forming a local ridge. Dolomitisation (chemical change of limestone) may have occurred during this phase.
5 Ma	Pleistocene – shallowing of sea and further exposure of areas. Extensive volcanism (termed the 'Newer Volcanics') commenced in Western Victoria and the South-East region.
1-2Ma	Mount Burr Range volcanoes erupt along Tartwaup Fault, adjacent to the Tantanoola Caves Complex and Green Waterhole-Tank Cave Fossil Complex (SHP 26530). Dolomitisation of the Up-and-Down Rocks area may have alternatively occurred during this period. Commencement of 13 ice age sea regressions and transgressions across the South-East limestone plain. Possible original dissolution of limestone/dolomite by groundwater to initiate the Tantanoola Caves.
528 ka	Oldest dated megafauna fossils in the Naracoorte Region.
~300 ka	Possible first opening of Tantanoola Tourist Cave entrance caused via sea cliff erosion as part of the 9th ('Reedy Creek') marine transgression. Marine sands and pebbles deposited around all sides of the Up-and-Down Rocks ridge which may have become a small island for this time.

134 ka	Oldest dated megafauna from Mount Gambier region (Kilsby's Sinkhole), 30kms southeast of the Tantanoola Caves Complex.
~50 ka	Probable arrival of Bunganditj (Boandik) people in the South-East region including the Tantanoola area after their gradual coastal migration around the continent from the north.
Post-1836	Tantanoola and Green Waterhole locations first encountered by European explorers/settlers following along the southern edge of the Mt Burr Range towards the Mount Gambier mountain.
1844	Locality passed through by Governor Grey's exploration expedition from Adelaide to Mount Gambier, likely utilising natural water sources available here, including Green Waterhole. Up-and-Down rocks and other outcrops used in navigation.
~1850	Regional agriculture commenced.
1860	'Hanging Rocks' Inn built ~2 kms north of Up-and-Down Rocks cliff face (still standing, and previously an Indicative Place on the Register of the National Estate, though currently dilapidated).
~1861	Charles Henry Lane (grandfather of Tantanoola Tourist Cave discoverer Boyd Lane) built the farmhouse (now restored) next to Up-and-Down Rocks.
1889	Up-and-Down Rocks gazetted as a Stone Reserve 'for Road-building purposes' and quarrying began for limestone at the base of the northern cliffs and dolomite at top. Remains of both quarries still exist.
1930	Proposed as a Pleasure Resort[28] and leased to Tantanoola District Council for 1 shilling per year. Management of the Tourist Cave vested in the Lane family who installed a generator and basic electric lighting; then later multi-coloured lighting for fantasy effects including a panel creating 'The Lair of the Tantanoola Tiger' folklore.
1933	First scientific publication on the Tantanoola Caves by SA Museum anthropologist Norman Tindale. Noted numerous fossil and geological specimens.
1952	Diamond drilling across Up-And-Down Rocks ridge including outside of the State pleasure resort area to prove quality and extent of dolomite resource, led by G. Cochrane.
1953	Function at the cave. 480 people and the 'Mount Gambier Band' gathered to celebrate the 23rd Anniversary of the cave's discovery.
1957	Cave Exploration Group of SA (CEGSA) members discover the Lake chamber within Lake Cave.

1958-61	CEGSA formally surveyed and mapped Tantanoola Tourist Cave under the leadership of Bob Sexton. This map was used as a base document for all subsequent evaluations, modifications, and improvements.
1962-1967+	Dolomite and diamond drilling at Up-And-Down Rocks.[29]
1963	Both caves and their maps published in Australia's 'Helictite' scientific Journal in a paper entitled *Caves of the Coastal Areas of South Australia* by Bob Sexton[30]. This subsequently became CEGSA Occasional Paper #3.
1970	Extra land purchased to enclose all of Tantanoola Lake Cave within the Pleasure resort boundary. Lake Cave gated for protection and to manage access.
1971	Tantanoola Lake Cave lake was first dived by Phil Prust and Ian Lewis.
1972	Tantanoola District Council relinquished the lease of the Tourist Cave and Resort site. Gazetted as Tantanoola Caves Conservation Park and run by the National Parks and Wildlife Service (NPWS).
1976	Tantanoola Caves information incorporated into the South Australian Cave Reference Book, CEGSA Occasional Paper #5,[31] which is the State reference for karst features (now periodically digitally updated as 'OzKarst').
1980	Up-and-Down Rocks and the two caves added to the Register of the National Estate.
1983	Australian Speleological Federation completed a detailed formal Draft Management Plan for NPWS with a recommendation to construct wheelchair access to the Tantanoola Tourist Cave. Construction completed same year.[32]
1992	Final updated Tantanoola Caves Management Plan released by NPWS.
1994-2000	Revegetation of the park area, signage and Disabled Amenities block installed. Lookout Loop Trail completed along the cliff front and across the cliff tops via the old dolomite quarry. Old fire lookout tower dismantled.
2008	A revised Tantanoola Caves Management Plan was created to replace the 1992 plan.
2023	Historical reports of seal and penguin bones that were preliminarily identified in 1933 were thoroughly re-assessed and investigated at the South Australian Museum. No evidence of such finds, material or notes were rediscovered.

References

Journal Articles

Aslin FW (1991) 'Tantanoola Caves Bone and Shell Salvage' Publisher information unknown, made available to Heritage SA by Fred Aslin.

Bednarik RG (2004) 'Rock Markings of humans and other animals', *Rock Art Research*, vol. 21, no. 1, pp. 73-77.

Bednarik, R (1991) 'On Natural Cave Markings' *Helictite*, vol. 29, no. 2, 27-41.

Crane R, & Fletcher K (2016) 'The Speleotourist Experience: Approaches to Show Cave Operations in Australia and China', Helictite, vol. 42, 1-11.

Robinson AC, Kemper CM, Medlin GC and Watts CHS (2000) 'The rodents of South Australia' *Wildlife Research*, vol. 27, no. 4, 379-404.

Rowling J (2000) 'Cataloguing Helictites and other capillary-controlled speleothems', *Proceedings of the 23rd Conference of the ASF*, pp. 46-56.

Sexton RT and Tech B (1965), 'Caves of the Coastal Areas of South Australia' *Helictite*, vol. 3, no. 3, pp. 45-59.

Sharpe, K (2004) 'Line Markings: Human or Animal Origin?' *Rock Art Research*, Vol. 21, no. 1, pp. 57-84.

Tidemann, CR (1967). Some Mammal Remains from Cave Deposits in the South-East of Australia. *South Australian Naturalist*, vol. 42, 21-27.

Tindale NB (1933) 'Tantanoola Caves, South-East of South Australia: Geological and Physiographical Notes' *Transactions and Proceedings of the Royal Society of South Australia*, Vol. 57, pp.130-142.

Tyler MJ, Aslin FW, Bryars S (1992) 'Early Holocene frogs from the Tantanoola Cave, South Australia' *Transactions of the Royal Society of South Australia*, vol. 116, no. 4, pp.153.

Webb JA, Grimes KG, Lewis ID (2010) 'Volcanogenic origin of cenotes near Mt Gambier, southeastern Australia', *Geomorphology*, Vol. 119, no. 1, pp. 23-35.

Miscellaneous Publications and Conference Papers

Department for Environment and Heritage (2008) 'Tantanoola Caves Conservation Park Management Plan', Adelaide, South Australia.

Grimes KG, Mott K, White S (2001) 'Field guidebook to karst and volcanic pseudokarst features in Southeast South Australia and Western Victoria – Sites in South Australia', *13th Australasian Conference on Cave and Karst* Management, Mt. Gambier, South Australia.

Horne P (1993) 'Lower South-East Cave Reference Book – An illustrated catalogue of the registered caves, sinkholes and associated karst features of the Lower South-East Region of South Australia', Cave Exploration Group of South Australia (inc) and National Speleological Society.

Lewis, ID, (1976), 'South Australian Cave Reference Book' in *CEGSA Occasional Paper #5*, Cave Exploration Group of South Australia, p.120, Adelaide, South Australia.

Tarvydas RK (1969) 'Dolomite Deposit at the Up-and-Down Rocks, Tantanoola; Secs, 195 & 200, Hd. Hindmarsh, Co, Grey'. Mineral Resources Review no. 127, pp. 104-112.

Personal Communication

Mott K (2023) Personal Communication.

Reed E (2023) Personal Communication.

Lewis ID (2023) Personal Communication.

Newspaper Articles

The South Australian Government Gazette (November 13, 1930)'Reserve for Pleasure Resort', Vol. 2, No. 22, pp. 986.

Border Watch Mount Gambier (21 August 1930) 'Tantanoola Cave to be taken over by tourist bureau', p. 6.

Web Sources

Hill K (2015), 'How Tantanoola Caves were found by a 16yo boy and his lost ferret' ABC South-East SA, <https://www.abc.net.au/news/2015-11-27/boy-loses-ferret-finds-tantanoola-caves/6979856>, [Accessed 15 February 2023].

National Parks and Wildlife Service (2023) 'Tantanoola Caves Conservation Park', < https://www.parks.sa.gov.au/parks/tantanoola-caves-conservation-park>, [Accessed 15 February 2023).

National Parks and Wildlife Service (2023) 'Naracoorte Caves Rezdy - Tantanoola Cave Entry' (2022) 'Tantanoola Cave Entry', <https://naracoortecaves.rezdy.com/429791/tantanoola-cave-entry>, [Accessed 22 March 2023].

Whiteside G (2021) 'Tantanoola Caves 'ahead of its time' for providing tourism experience for all', ABC South-East SA, ABC News, <https://www.abc.net.au/news/2021-06-20/tantanoola-caves-leads-the-way-for-accessible-tourism-/100223418>, [Accessed 15 March 2023].

Books

Vickers-Rich P (1991) 'Vertebrate palaeontology of Australasia', Pioneer Design Studio and Monash University Publications Committee, Eds. Monaghan JM, Baird EM and Rich TH. Melbourne, Australia.

SITE DETAILS

Tantanoola Caves Complex **PLACE NO.: 26555**

Boandik Country, Tantanoola Caves Conservation Park, 32047 Princes Highway, Tantanoola SA, 5280

FORMER NAME:	Tantanoola Tourist Cave (Current), Tantanoola Lake Cave (North Cave)	
DESCRIPTION OF PLACE:	Area of Tantanoola Conservation Park	
DATE OF CONSTRUCTION:	~300ka, Conservation Park in 1972	
REGISTER STATUS:	Provisional Entry (tbc)	
CURRENT USE:	Conservation Park	
PREVIOUS USE(S):	1962: Quarry	
LOCAL GOVERNMENT AREA:	Tantanoola	
LOCATION:	**Street No.:**	32047
	Street Name:	Princes Highway
	Town/Suburb:	Tantanoola
	Post Code:	5280
LAND DESCRIPTION:	**Title Reference:**	CR/5772/853
	Hundred	Hindmarsh
	Encumbrance:	Native Title claim: First Nations of the South-East #1

PHOTOS

Tantanoola Caves Complex **PLACE NO.: 26555**

Boandik Country, Tantanoola Caves Conservation Park, 32047 Princes Highway, Tantanoola SA, 5280

The interior of Tantanoola Tourist Cave

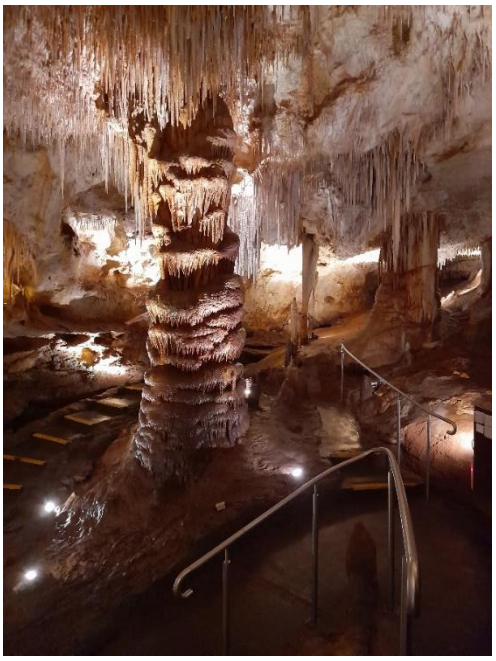
Source: Dew Files 7 February 2023

The underground lake in Tantanoola Lake Cave, pink dolomite is distinguishable around the lake's circumference

PHOTOS

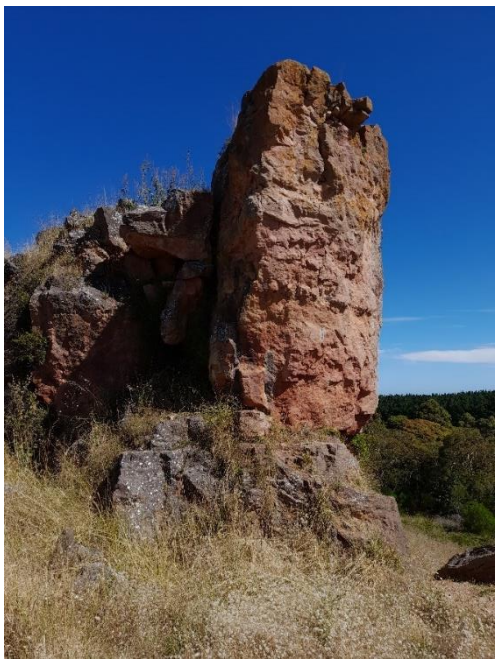
Tantanoola Caves Complex **PLACE NO.: 26555**

Boandik Country, Tantanoola Caves Conservation Park, 32047 Princes Highway, Tantanoola SA, 5280



The interior of Tantanoola Tourist Cave including the wedding cake formation

Source: Dew Files 7 February 2023



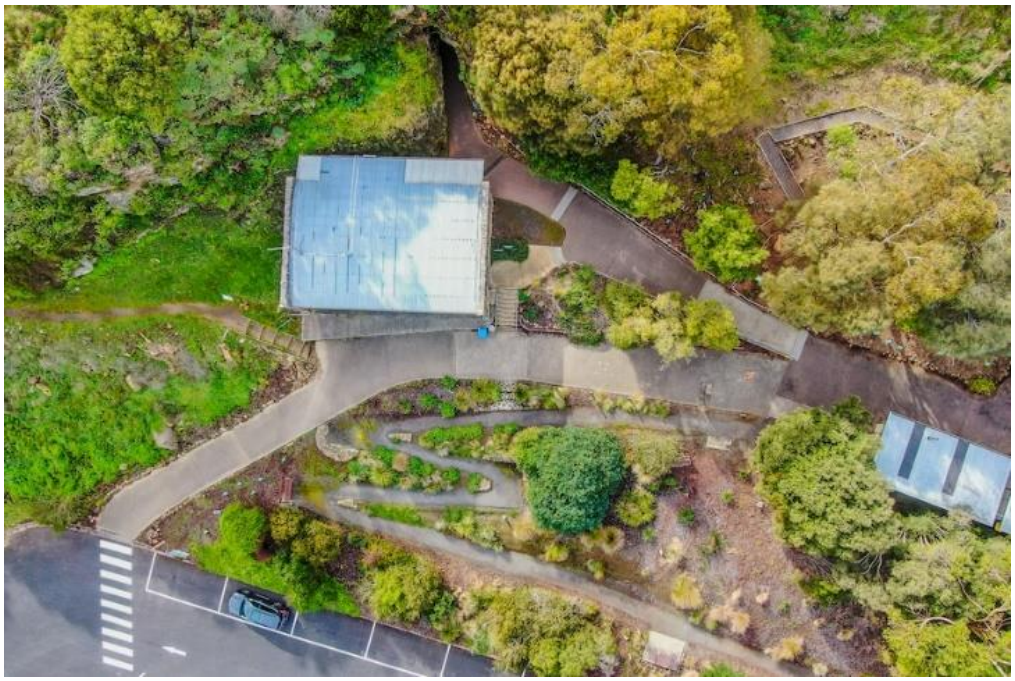
Exposed dolomite in the Up-And-Down Rocks at the edge of the former dolomite quarry in the cliff line

Source: Dew Files 7 February 2023

PHOTOS

Tantanoola Caves Complex **PLACE NO.: 26555**

Boandik Country, Tantanoola Caves Conservation Park, 32047 Princes Highway, Tantanoola SA, 5280



A portion of the Tantanoola Caves Conservation Park visitor information centre from above. The accessibility ramps leading to the cave entrance can be seen top left

Source: ABC South East SA

[1] Department for Environment and Heritage (2008) 'Management Plan - Tantanoola Caves Conservation Park', Adelaide, South Australia.
[2] Kevin Mott, Personal Communication (2023).
[3] National Parks and Wildlife Service (2023) 'Tantanoola Caves Conservation Park', < https://www.parks.sa.gov.au/parks/tantanoola-caves-conservation-park>, [Accessed 15 February 2023)
[4] National Parks and Wildlife Service (2023) 'Naracoorte Caves Rezdy - Tantanoola Cave Entry' (2022) 'Tantanoola Cave Entry', <https://naracoortecaves.rezdy.com/429791/tantanoola-cave-entry>, [Accessed 22 March 2023].
[5] Reed E, Personal Communication (2023).
[6] Department for Environment and Heritage (2008) 'Management Plan - Tantanoola Caves Conservation Park'.
[7] Horne P (1993) 'Lower South-East Cave Reference Book – An illustrated catalogue of the registered caves, sinkholes and associated karst features of the Lower South-East Region of South Australia', *Cave Exploration Group of South Australia (inc)* and *National Speleological Society*.
[8] Department for Environment and Heritage (2008) 'Management Plan - Tantanoola Caves Conservation Park'.
[9] Ian Lewis, Personal Communication (2023).
[10] Tindale NB (1933) 'Tantanoola Caves, South-East of South Australia: Geological and Physiographical Notes' *Transactions and Proceedings of the Royal Society of South Australia*, Vol. 57, pp.130-142.
[11] Kevin Mott, Personal Communication (2023).
[12] Reed E, Personal Communication (2023).
[13] Tindale NB (1933) 'Tantanoola Caves, South-East of South Australia: Geological and Physiographical Notes'.
[14] Webb JA, Grimes KG, Lewis ID (2010) 'Volcanogenic origin of cenotes near Mt Gambier, southeastern Australia', *Geomorphology*, Vol. 119, no. 1, pp. 23-35, and Ian Lewis, Personal Communication (2023).
[15] Rowling J (2000) 'Cataloguing Helictites and other capillary-controlled speleothems', *Proceedings of the 23rd Conference of the ASF*, pp. 46-56.
[16] Grimes K, Mott K, White S (2001) 'Field guidebook to karst and volcanic pseudokarst features in Southeast South Australia and Western Victoria – Sites in South Australia'.
[17] Hill K (2015), 'How Tantanoola Caves were found by a 16yo boy and his lost ferret' ABC South-East SA, <https://www.abc.net.au/news/2015-11-27/boy-loses-ferret-finds-tantanoola-caves/6979856>, [Accessed 15 February 2023].
[18] The South Australian Government Gazette (November 13, 1930)'Reserve for Pleasure Resort', Vol. 2, No. 22, pp. 986.
[19] Border Watch Mount Gambier (21 August 1930) 'Tantanoola Cave to be taken over by tourist bureau', p. 6.
[20] Tindale, NB (1933). Tantanoola Caves, South-east of South Australia: Geological and Physiological Notes'.
[21] Tidemann, CR (1967). Some Mammal Remains from Cave Deposits in the South-East of Australia. *South Australian Naturalist*, vol. 42, 21-27.
[22] Mary-Anne Binnie, Personal Communication (2023).
[23] Tyler MJ, Aslin FW, Bryars S (1992) 'Early Holocene frogs from the Tantanoola Cave, South Australia' *Transactions of the Royal Society of South Australia*, vol. 116, no. 4, pp.153.
[24] Vickers-Rich P (1991) 'Vertebrate palaeontology of Australasia', *Pioneer Design Studio* and *Monash University Publications Committee*, Eds. Monaghan JM, Baird EM and Rich TH. Melbourne, Australia.
[25] Aslin FW (1991) 'Tantanoola Caves Bone and Shell Salvage' Publisher information unknown, made available to Heritage SA by Fred Aslin.
[26] Robinson AC, Kemper CM, Medlin GC and Watts CHS (2000) 'The rodents of South Australia' *Wildlife Research*, vol. 27, no. 4, 379-404.
[27] Bednarik RG (2004) 'Rock Markings of humans and other animals', *Rock Art Research*, vol. 21, no. 1, pp. 73-77; Bednarik, R (1991) 'On Natural Cave Markings' *Helictite*, vol. 29, no. 2, 27-41 and Sharpe, K (2004) 'Line Markings: Human or Animal Origin?' *Rock Art Research*, Vol. 21, no. 1, pp. 57-84.
[28] Department for Environment and Heritage (2008) 'Management Plan - Tantanoola Caves Conservation Park'; and Border Watch Mount Gambier (21 August 1930) 'Tantanoola Cave to be taken over by Tourist Bureau' p. 6.
[29] Tarvydas RK (1967) 'Dolomite Deposit at the Up-and-Down Rocks, Tantanoola; Secs, 195 & 200, Hd. Hindmarsh, Co, Grey'.
[30] Sexton RT and Tech B (1965), 'Caves of the Coastal Areas of South Australia' *Helictite*, vol. 3, no. 3, pp. 45-59.
[31] Lewis ID (1976), 'South Australian Cave Reference Book' in *CEGSA Occasional Paper #5*, Cave Exploration Group of South Australia, p.120, Adelaide, South Australia.
[32] Whiteside G (2021) 'Tantanoola Caves 'ahead of its time' for providing tourism experience for all', ABC South-East SA, ABC News, <https://www.abc.net.au/news/2021-06-20/tantanoola-caves-leads-the-way-for-accessible-tourism-/100223418>, [Accessed 15 March 2023]; Crane R, & Fletcher K (2016) 'The Speleotourist Experience: Approaches to Show Cave Operations in Australia and China', Helictite, vol. 42, 1-11.