# Caves of the Flinders Ranges



Guidebook for the 21<sup>st</sup> Conference of the Australian Speleological Federation Quorn South Australia 1997

Guidebook of 14th Conference of the ASF 1997

## **Caves of The Flinders Ranges**

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## Acknowledgments

Producing a guide book such as this can only ever be a collaborative effort by many people.

Thanks are due to all the past and current members of the Cave Exploration Group of South Australia (CEGSA) who have recorded what they found and placed this into the club records.

This Guide book would have been much more difficult without the efforts of Ian Lewis who compiled the CEGSA Occasional Paper, number 5 *The South Australian Cave Reference Book*, Graham Pilkington, Kevin Mott and Gordon Ninnes for their work on Occasional Paper number 6 the *Speleovision Field Notes* and George Parker and Kevin Mott for the Flinders Ranges section of the *Australian Karst Index*.

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# Introduction

The Flinders Ranges Karst region is a diverse and complex one. It contains many discrete karst areas which because of the massive folding and weathering of the Flinders Range, are often separated by many kilometres and represented by only one or two caves in each area.

The majority of caves in the Flinders Ranges are formed in the crystalline limestones and dolomites developed during repeated inundations of the Adelaide Geosyncline.

There are caves developed in other sedimentary rocks in the region, such as shales and sandstones.

Rock shelters of significance have been recorded in some instances because of their local historic or archaeological values. Rock shelters have in general not been allocated "F" numbers, but significant caves in quartzite have been numbered.

Many of the caves of the Flinders Ranges have been extensively mined, particularly for guano.

As of 1985 there were only forty-five caves known in the region.

This has now increased to 115. This is due in no small measure to the infectious enthusiasm for the region of Stan Flavel who took on the region as his pet project while the Records Officer for CEGSA.

Long, often late night chats about how faults seemed to relate to the cave development in the ranges and where the new caves could be found; field trips with several hour searches in Narrina Pound for the cave the manager of the station found as a lad; encouragement to look for more caves and draw better maps for region. All these left a strong impression there was so much more to know about this region.

There is relatively little known of the caves of the Flinders Range compared to other karst regions. The surface topography that influenced the development of the caves has often been long eroded to the sea, leaving great scope for investigation, contemplation and hypothesising.

This is an area for those who dream there are more caves yet to be found.

May this guide book encourage more of it.

Peter Kraehenbuehl.

## **The Flinders Karst Region**



Flinders Ranges Karst Region Boundary Definition. After Lewis 1975

Relevant Map Sheet: Division of National Mapping 1:1,000,000 "Adelaide" and "Broken Hill" sheets.

The southern boundary, common with the Adelaide Hills Region, runs from Burra to Port Pirie along the main road via Spalding, Gulnare and Crystal Brook. The western boundary follows the 150 metre contour from Port Augusta northwards to Marree but includes the western outliers of the Ranges, and from there runs east to the area around Mount Hopeless and turns southwards to the Olary Hills. Finally it swings away towards Broken Hill and back again, ending where it intersects the Burra to Morgan road.

Lewis 1975 noted that the "Caves in the Flinders Ranges and Adelaide Hills have to be separated on geographical grounds although both groups could be associated, being part of the same Orogeny the formation of the Ranges Complex."

This is an interesting point and further study could be conducted on the development of caves throughout the Adelaide Geosyncline rather than as separate geographical units.

Karst Areas

These are descriptions of subgroups of caves within the Karst region.

The boundaries are not fixed, but the descriptions can be based on similarity of the geological deposits, their geographical proximity or combinations of these criteria. Karst areas make it easier to describe

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trends in cave development within the Flinders Range, because of the diversity of rock types which caves form in within the range.

Where possible, the Karst areas chosen in this work relate to similarity of geological deposits as the first criterion.

Karst Area names have been widely used by club members planning caving trips to describe which groups of caves they intend to visit.

## **Visiting the Flinders Ranges Caves**

The Flinders are a spectacular area of dry ranges. The caves are only one aspect of their beauty and the walks into some of the caves are interesting in themselves. There are plenty of spectacular views so bring at least one camera.

## Amenities

There are few towns within the central part of the Range so carry basic spares, sufficient fuel and water for your trip.

Except at Hawker, Orroroo or Leigh Creek South, the other towns tend to only have limited services available.

There are no permanent streams but a few scattered water holes from which it is not recommended to drink.

Once off the main highway the roads are all dirt and some have many dry creek crossings. Care is needed in driving along many of the access roads.

## Camping

Camping is available within walking distance from some of the caves, by arrangement with the lessees or owners.

Camping with a car in the Flinders Ranges National Park is restricted to designated campsites only. There is an overnight camping fee in National Parks.

For details on camping in the Gammon Ranges National Park, please contact the Ranger station at Balconoona, or contact the District Office at Hawker.

Fire Bans exist in the Flinders Ranges during summer.

## **Other Accommodation**

The Bagalowie outstation is available for use by caving groups on a limited basis from the owners. The Cave Exploration Group (South Australia) has key and the conditions and arrangements for it's use should be sought from the club.

There are caravan parks at Melrose and Wilpena which can provide an alternative base for some caving.

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Willow Springs Station has cabins for hire; Arkaroola, Wilpena and Blinman have hotel or motel accommodation. The Flinders Ranges Tourist Association can provide more details of other venues.

#### Suggested Caves for familiarisation trips to the Flinders Ranges caves.

These caves are those which are commonly visited by caving clubs in South Australia to show new members the caves of the Flinders Ranges.

In general they are the larger cave systems or significant features of the karst region.

The caves are clustered in distinct areas, with a typical weekend trip being either to the Holowilena and Buckalowie Creek areas, or to the Oraparinna and Bunkers Range areas.

Other caves in the region are visited less frequently and usually by those who have seen many of the other caves in the Range. Further details on these are available from CEGSA on application to the Records Officer or from the CEGSA Committee.

Although many of the mined caves are well documented in readily available literature, the vast majority are not well known to the general public and are susceptible to damage from visits by interested but untrained people.

Please keep any locations in confidence, and direct any interested people to the South Australian Speleological Council so they can visit the caves on a suitable club run trip.

Currently there are concerns by some owners and managers about the access of 4WD vehicles on their properties.

As most of the caves are on privately managed leasehold or freehold land, the protocols for visiting the caves may change with changes in managers or land use practises. For this reason please contact the South Australian Speleological Council or the Cave Exploration Group (SA) prior to a trip to find out what the latest requirements are.

Karst Area	Cave	No.
Buckalowie Creek	Mairs Cave	F3
Buckalowie Creek	Clara St. Dora Cave	F4
Bunkers Range	Eyrie Cave	F15
Mt. Remarkable	Mt. Remarkable Blowhole	Fl
Narrina	Woodendinna Cave (Narrina	F11
	Cave)	
Oraparinna	Oraparinna Cave	F8
Oraparinna	Thunderdrum Cave	F29
Oraparinna	Yellow Foot Rock Wallaby Cave	F33
Walpunda Creek/ Holowilena	Arcoota Creek Cave	F5
Walpunda Creek/ Holowilena	Good Friday Cave	F6
Walpunda Creek/ Holowilena	Mt. Sims Cave	F7
Wooltana	Wooltana Cave	F9

# An Overview of the Geology and Caves of the Flinders Ranges.

## Ruth Lawrence.

The Flinders Ranges are a set of impressive mountain ranges that extend for over 400 kilometres north of Port Pirie in South Australia. They constitute the northern component of the geological feature known as the Adelaide Geosyncline, which encompasses Kangaroo Island, the Fleurieu Peninsula, the Mount Lofty Ranges, the Flinders Ranges, and the northern part of the Flinders Ranges known as the Gammon Ranges. It is the geology of the Flinders Ranges that provides the primary appeal of the area. Imposing mountain ranges, upturned layers of rock and hidden gorges provide a strong aesthetic appeal to visitors.

There are three distinguishing features of the geology of the Flinders Ranges. Firstly, the rocks are sedimentary in nature. There is the usual assortment of sandstones, siltstones, limestones, mudstones, and conglomerates, but there are also layers of glacial deposits and deposits from an asteroid impact. Sandstones dominate the landscape of the Flinders Ranges, but there are also scattered bands of cavernous limestone. Together, the sedimentary layers may be as much as fifteen kilometres thick. Although there are some terrestrial sediments present in the Flinders Ranges, the majority of the sediments are of marine origin.

Secondly, the rocks of the Flinders Ranges are very old (see time line). The area is underlain by ancient crustal rocks, and the sediments were deposited in a depressed area of crustal rock between the Gawler Craton to the west and the Curnamona Craton to the east. The vast majority of the rocks of the Flinders Ranges are considered to date from the Pre-Cambrian(or Adelaidean) era, with some rocks being of Cambrian age (Preiss 1987). This implies that considerable time has been available for cave development in the Flinders Ranges.

Thirdly, the sediments of the Flinders Ranges have been subject to extensive folding and faulting. This occurred principally during the late Cambrian era, during an event known as the Delamerian Orogeny. This event was preceded by extensive diapir intrusions, where multiple domes or anticlinal folds of underlying soft and plastic rocks were squeezed upwards, rupturing the overlying rocks, and often producing breccia.

The Delamerian Orogeny then operated in two phases.

The early phase produced linear north-south folds in the southern and central Flinders region, and was responsible for the essentially linear mountain ranges between the Fleurieu Peninsula in the south and the area east of Port Pirie.

The second phase of the Delamerian Orogeny affected mainly the northern Flinders area, and resulted in strong east-west folds in that area and relatively tight northeast-tending folds in the eastern central zone of the Flinders Ranges (the Nackara Arc). Fault line activity in places such as the Northwest Fault, west of Leigh Creek, occurred in this phase.

Since the deposition of the main sedimentary deposits, other geological events have occurred, including a minor glacial event, the formation of coal deposits in four small circular basins in the Leigh Creek area (see time line), deposition of marine sediments in the northern part of the Flinders Ranges associated with the inland Cretaceous sea, and uplift of the mountain ranges during the Tertiary period. Initially, the uplift occurred gradually, and resulted in sedimentation of lacustrine and fluvial material around the margins of the ranges.

The major phase of uplift of both the Flinders and Mount Lofty Ranges took place towards the end of the Tertiary and beginning of the Quaternary period. Associated with the uplift, the top layers of the

sedimentary sequence have been eroded, which has resulted in the present elevation of the ranges and their current rugged character (Lemon 1996). Much of that eroded material has been reworked and deposited beneath the plains to the west, north and east of the Flinders Ranges, or as alluvial fans along the boundaries of the Flinders Ranges.

Today, the dominant process throughout the Flinders Ranges is erosion, with sedimentation restricted to the flanking areas.

Due to the geological history of the Flinders Ranges outlined, outcrops of limestone are scattered and discontinuous. Hence, the Flinders Ranges are not a typical karst region of more or less continuous limestone. As with other geological units, outcrops of limestone frequently occur in couplets, and often take the form of mirror images on either side of an anticlinal ridge or synclinal depression line. For example, in the Buckalowie Creek area north-east of Orroroo, there are two parallel bands of limestone running north-east to south-west. Two caves in the northern outcrop have been known for many years, and the southern outcrop has the same potential to be cavernous, although remoteness has so far precluded investigation.

There are four main limestone formations that have been identified as cavernous in the Flinders Ranges: the Balcanoona formation, Etina formation, Trezona formation, and the Wilkawillina limestone. About 60% of the known caves in the Flinders Ranges occur in one or other of these formations, and details of each are described below based on the work of Preiss (1987).

However, this does raise the obvious question as to the bedrock type for the remaining 40% of the caves in the Flinders Ranges. The rest of the caves are also located in shale, quartzite, tillite, siltstone, sandstone, and other minor limestone formations. This seems to confirm the notion that caves are located where you find them!

## The Balcanoona formation.

This formation comprises material of a sandy limestone with flat shale pebbles and fragments of stromatolites that is 75 metres thick, overlain by a dark grey massive limestone that is 60 metres in thickness. Stromatolites are domical or columnar structures produced by cyano-bacteria which trap, bind and precipitate sediment such as calcium carbonate. There are about 240 square kilometres of outcrops of the Balcanoona formation, mainly in the eastern and northern parts of the Flinders Ranges. Caves in this formation have been found in the Mount Remarkable, Chambers Gorge, Burr Well and Arkaroola areas, of which Wooltana Cave(5F9) is an example.

## The Etina formation.

Occurring mainly around the central Flinders Ranges region, the Etina formation consists of grey oolitic limestone and sandy limestone with inter-bedded green dolomitic siltstone and shale. The oolitic component comprises spherical or ellipsoidal ooid grainstones of quartz and feldspar cemented by calcite. This is the most common of all limestone formations in the Flinders Ranges, with outcrops covering about 760 square kilometres and up to 700 metres thick. Caves in the Etina formation have been found at Orroroo, Buckalowie Creek, Walpunda Creek, Arcoota Creek, Holowilena, Oraparinna, The Bunkers, Blinman and Mt Scott. The most well known caves in this formation are Mairs Cave (5F3) and Clara St Dora Cave (5F4) at Buckalowie Creek, Arcoota Cave (5F5) at Arcoota Creek, Good Friday Cave(5F6) and Mt Sims Cave (5F7) at Holowilena, Oraparinna Cave (5F8) at Oraparinna, and Eyrie Cave (5F15) in The Bunkers range. Most of these caves show a strong structural control. For example, first-time observers of a map of Mairs Cave (5F3) often conclude there is something wrong with the plan, as the north-western boundary of most of the cave is a straight line. In fact, this cave has developed along the contact between near vertical beds of Etina formation and an adjacent shale

member. Both Arcoota Cave (5F5) and Oraparinna Cave (5F8) display a dominant joint-control pattern in cave passages.

## Trezona formation.

The Trezona Range north of Wilpena Pound is named for the alternating limestone and shale beds of the Trezona formation where a series of terraces have formed. Located mainly in the central Flinders Ranges, this formation is comprised of pale red and grey fine-grained limestones alternating with greenish grey laminated shale and siltstone. The content of the limestone is up to 92% carbonate, and the shale is up to 32% calcite. There is about 250 square kilometres of outcropping Trezona formation in the Flinders Ranges, and the depth of the formation may reach240 metres. Caves in the Trezona formation have been found at Arcoota Creek, Oraparinna, the Trezona Range, and the Walpunda Creek areas. Thunderdrum Cave (5F29) and Yellow Foot Rock Wallaby Cave (5F33) in the Trezona Range near Oraparinna are two well-known caves in this formation.

## Wilkawillina limestone.

This is the youngest of the limestones in the Flinders Ranges, being of Early Cambrian age. This limestone is oolitic, stromatolitic, often dolomitised, and contains fossil archaeocyathans. Over 500 square kilometres of outcropping Wilkawillina limestone has been mapped, and most of that is located in the central western and north-eastern Flinders Ranges. Caves in the Wilkawillina limestone have been found in the Brachina Gorge, Oraparinna, Wirrealpa, Angepena and Moro Gorge areas. Bunyeroo Cave (5F13) at Oraparinna and Anticline Cave (5F24) at Wirrealpa are two notable caves in this unit.

Despite the fact that there is about 2000 square kilometres of outcropping limestone in the Flinders Ranges, only about five percent of that total area has been systematically explored for caves! Why? To date, the Flinders Ranges have not been regarded as a karst province of any significance, and so have not been targeted for cave exploration activities. Added to this is the difficulty of access to the bands of limestone. Due to the rugged nature of the landscape, most limestone areas have to be explored on foot. The semi-arid and arid nature of the Flinders Ranges has meant that only the most hardy and seasoned cavers visit this area. May there be a reversal of this trend in the future!

## References

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Priess, W.V. 1987. *The Adelaide Geosyncline*: Late Proterozoicstratigraphy, sedimentation, palaeontology and tectonics. Geological Survey of South Australia Bulletin 53

## GEOLOGICAL TIME LINE SHOWING MAJOR GEOLOGICAL EVENTS AND CAVERNOUS STRATA

## Adapted from Lemon (1996)

Million	ERA	PERIOD	MAJOR EVENTS	STRATA PRESENT	CAVERNOUS
years			<u> </u>	PRESENT	GEOLOGY
0 Ma		-Quaternary-	Terrestrial deposits		
25	Cainozoic	Quitonnary			
50		Tertiary	Tertiary uplift		
75					
100		Cretaceous			* Main cavernous
125			Mainly marine deposits		limestone
150	Mesozoic				+ Non-limestone
175		Jurassic			formation
200 225		Triancia	Coal deposits		
225		Triassic Permian			
275		Feiinian	Glacial deposits		
300		Carboniferous	Giaciai deposits		
325		Carbonnerous			Oraparinna shale <sup>+</sup>
350					Parara limestone
375		Devonian			Midwerta shale <sup>+</sup>
400					Wilkawillina limestone*
425		Silurian			Parachilna formation <sup>+</sup>
450					
475		Ordovician	1		Pound quartzite <sup>+</sup>
500			Delamerian		Wonoka formation
525		Cambrian	orogeny		Bunyeroo formation
550			♥		ABC Range quartzite <sup>+</sup>
575					Mount Curtis tillite <sup>+</sup>
600 625			Meteorite deposits		Trezona formation* Etina formation*
650			Predominantly		Tarcowie siltstone <sup>+</sup>
675			marine deposits		
700	Proterozoic	Adelaidean			<b>F</b> Balcanoona formation*
725			Several		Tapley Hill formation <sup>+</sup>
750			glaciations		Wilyerpa formation <sup>+</sup>
775			· · · · ·		
800			Volcanism		Emeroo subgroup <sup>+</sup>
825		??			
850		↓ ↓			

# **Caves of the Flinders Region**

## Peter Kraehenbuehl and Stan Flavel.

## Mount Remarkable Blowhole 5F1

Mount Remarkable blowhole is a 50m deep pothole in a near vertical dolomite outcrop. The cave appears to have once drained part of the catchment formed by the hill.

There are two parallel shafts in the cave which join at a depth of 28m. The chamber at the bottom of the cave is approximately 8m long and 4m wide. This leads down 10m to a dig through rubble. In this section of the cave part of the walls are formed by a red earth and bone breccia. The dig leads to a small pool where the cave intersects the water table. This pool often contains frogs. Snakes have been recorded at the base of the pitch.

The cave is quite humid, but contains only a few dormant, calcite speleothems.

The cave had a reputation of having a crumbly entrance pitch. With a little more traffic in the cave this problem has been reduced, however some care is still needed.

Although it is called a "Blowhole" there is no discernible flow of air from the cave.

#### Access

20 minutes drive from Melrose, then a 10-15 minute walk from where you can park your cars.

The cave takes 30 minutes to an hour to see excluding rigging time.

## Rigging

The cave has been equipped with glue-in stainless steel bolts for use with SRT. Alternatively a 40m ladder and 50m belay rope are required for groups wishing to use ladders.

SRT details: Pitch Length 40m

- Tie a short length of rope to the bushes outside the entrance to assist exiting if desired.
- 6m Re anchor the rope on the large thread in the entrance,(6mtape). Tie in a 50m rope.
- 8m Rebelay on the bolt.
- 14m Redirection on the bolt, (short 100mm tape).
- 12m At the ledge rebelay using the two bolts on the left wall.

#### Land use

The cave is in freehold land used for grazing, specific permission is required from the owners to visit the cave.

Maps 5F1-CEG1003

## Grey's Hut Cave

#### 5F2

The cave has formed between large dolomite slabs. The main chamber is 2.5m high 10m long and 8m wide with a central stalagmite formed on the boulders which make up the floor. The floor is a mixture of boulders and mud. There is a low silt floored side passage with some bones which appear to be sub fossils. Kangaroo bones, an aboriginal spear barb and copper staining on both the walls and over the decoration have also been recorded.

#### Access

60 minute drive from Melrose, on 4WD private roads. The cave takes about 20-30 minutes to see.

Land use

The cave is in freehold land used for grazing, specific permission is required from the owners to visit the cave.

Maps 5F1-CEG1003, 5F2-CEG1019, 5F2-CEG3105.

## Mairs Cave (Clara St. Dora South Cave ) 5F3

This is a popular cave for familiarisation trips to the Flinders. There is an entrance pitch, helectitites and challenging squeezes all in the one cave.

There are delicate sections to the cave, and care is needed particularly if you are leading the group.

The *Christmas tree* extension has been fully mapped and the leads from it are very unlikely to be pushed. For this reason please do not enter the low chamber that contains the Christmas trees, there are many other excellent parts to the cave to show people. If you plan to visit this area make sure it is with an experienced party and only as a small group.

The cave is well known from it's previous use a guano mine in the 1930's and so the massive gate was installed by the Port Augusta Cave Explorers (PACE) over the entrance in 1971 to protect the cave from vandalism. This gate was repaired in 1993 by members of CEGSA to prevent rock fall from the old shoring and to repair a breach of the gate.

Only occasional bats have since been recorded in the cave during recent times.

The entrance pitch of 17m leads to the main chamber 120m long x 10m wide. This chamber has a flat vertical wall along a shale bed that is pierced by the "Catacombs" passages which extend a further 20m.

Overall the length of the cave is about 400m.

The cave has developed along three parallel bedding planes and contains the infamous 81/4'' squeeze which is regularly visited feature.

At the start of the Christmas tree extension there are some needle helectites and some amazing solution pipes into the rock.







For these reasons Mairs cave is a popular cave for photography.

The cave extends 10 m below the current creek level and evidence of flooding can be seen on good "pool formed decoration" in the lower reaches of the cave. During 1974 after heavy rains there was water 3m deep at the bottom of entrance shaft.

Fossil bone material has been recovered from the mud deposits including Thylacaleo, and Thylacinus.

"Buckalowie" the name of the creek adjacent to Mairs Cave is Aboriginal for "cave water".

Access

The cave is a 5 minute walk up the hill from where you can park cars. It usually takes 2-3 hours to see the cave depending on the group and how much photography is undertaken. The cave is gated and a key from CEGSA is required.

Rigging

The entrance pitch is 17m. A fixed ladder was installed in 1993, but most groups bring their own caving ladder and rig belays from the gate structure.

For those using SRT the pitch free hangs the whole pitch, and rope protectors are needed for the top of the pitch.

Land use

The cave is in a pastoral lease, and specific permission from the lessees is required to visit the cave.

Maps 5F3-CEG1009

## Clara St. Dora Cave

5F4

Clara St Dora Cave is one of the famous guano mines of the 1920's and 30's. News reports of the time, of massive deposits which would last 50 years never eventuated, but the cave was considered economically important enough to blast an adit at creek level into the main chamber.

The original entrance is a 17m shaft. There is still a great deal of evidence left in the cave from these times, including the adit well timbered with native pine.

The floor of the main chamber is 4m below the Buckalowie Creek, and along with Mairs cave, Clara St Dora was flooded in 1974.

Part of the cave is gated to protect the speleothems and other cave minerals. In many places in the vicinity of the gate you can see where some of the calcite crystals have been collected from geodes in the roof and walls of the cave.



Beyond the gate is a series of passages which lead to a chamber containing a section of stalactites up to 2m long with thorn like helectites on their surfaces. These are a unique and spectacular feature of the cave.

If visiting this area please do so with small experienced groups as the way in is very close to other calcite formations.

The main chamber has some interesting solution pipes in the roof which are similar to those found in Mairs Cave. If climbing into these please take care as guano residues can make this areas slippery.

The cave extends for 150m with the main chamber being 16m long and 8m high.

Occasional bats have been recorded in the cave.

Access

The cave is a 5 minute walk across Buckalowie Creek from where you can park cars. It usually takes 1-2 hours to see the cave depending on the group and how much photography is undertaken. Part of the cave is gated and a key from CEGSA is required.

Although the cave's original entrance is a 17m shaft, most people use the adit driven into the cave by guano miners.

Land use

The cave is in a pastoral lease, and specific permission from the lessees is required to visit the cave.

Maps 5F4-CEG1005, 5F4-CEG1014.

## Arcoota Creek Cave (Aliena Cave) 5F5

The entrance through a mined adit leads to a horizontal maze system covering an area of 90m by 60m. The passages are small and on average are 1m high. The cave has formed a quadrille pattern in vertical dipping beds.

There are two natural shafts, but most groups enter via the adit.

The cave was used for guano mining in the 1920's and the miners extended the cave through these activities. The search for guano was extensive as the Advertiser of March 21 1922 noted "Every part of the caves that were accessible was probed, sampled and analysed..."

Arcoota Creek Cave is very dusty particularly in the smaller passages. Desiccated animal remains particularly kangaroos, bats, embryonic cave pearls and remnants of guano mining operations can be found in the cave.

Foul air has been reported in some parts of the cave.

Access

From where groups usually camp the entrance is a 10 minute walk.





The cave is very dusty and dust masks make the trip more comfortable. It takes 2 hours to see the cave, although groups can spend longer.

Land use

The cave is in a pastoral lease, and specific permission from the lessees is required to visit the cave.

Maps 5F5.CEG1006, 5F5.CEG1015.

#### Good Friday Cave

5F6

This cave is a 60m long system of passages along 40° dipping beds, to a total depth of 28m. The floor is very dusty and care needs to taken to not stir up too much dust. The cave contains some dry decoration, and an interesting "hole in the wall" through a blade of rock. The cave was mined for guano, and some relicts including niches carved in entrance shaft remain.

There are two entrances to the cave and adjacent shafts connect to other small features. Bones have been recorded in the cave.

Access

The cave takes 30 minutes to walk from where you can park cars. It takes 30 minutes to see the cave.

Rigging

A handline for the entrance may be useful.

Land use

The cave is in a pastoral lease, and specific permission from the lessees is required to visit the cave.

Maps 5F6.CEG1000, 5F6.CEG542.

#### Mount Sims Caves

5F7

The dug drive and mining artefacts allude to this cave's history as a guano mine. Beyond the artificially enlarged walk in entrance is a chamber with evidence of the caves previous use as a mine.

The major part of the cave starts from a passage 3m above the floor of the entrance chamber and through an internal gate.

Mount Sims Cave has formed on an inclined bedding plane and has many lateral extensions. Altogether there are 560m of passages.

These form several multi-level joint controlled mazes, with an average roof height of 2m. Some parts however contain difficult squeezes and some very loose rocks so care is needed if you visit this cave with people who have limited caving experience.



There are several small lakes in the large inner chamber, with the calcite flakes indicating the water levels in the cave were once much higher. The cave contains some excellent decoration, and there is still enough guano on the floor to make some sections beyond the gate a bit slippery.

Access

It is possible to park a car outside the entrance of the cave. It usually takes 2 or more hours to see the cave.

Part of the cave is gated and a key from CEGSA is required.

Land use

The cave is in a pastoral lease, and specific permission from the lessees is required to visit the cave.

Maps 5F7.CEG1024.

## Oraparinna Cave

5F8

There are two entrances and two dug shafts into this complex of joint controlled passages. The cave covers an area of 200m by 200m. There is a 3m step to part of the cave in a second bedding plane and evidence of a solutional origin.

The cave contains some dormant broken decoration. The air in the cave is dry.

There are many patches of dark pitch-like guano still present in the cave, and close examination of these often reveals the distinctively large scats of the Ghost Bat within it's structure. Mummified animal remains have been found, and there are fine white crystals in the cave.

Occasional bats have been recorded in the cave.

The cave is not fully mapped and for those who like dust, there are further prospects for exploration in the system.

## Access

A walk of up to 30 minutes to the cave from where you can park cars. The cave usually takes an hour to see. The cave is very dusty in parts, and dust masks can make an extended visit more comfortable.

Land use

The cave is in the Flinders Ranges National Park, and specific permission is required from the Department of Environment and Natural Resources.

Maps

5F8.CEG1002, 5F8.CEG1010.



## Wooltana Cave

#### 5F9

Wooltana Cave was mined for Bat Guano in the 1930's as were many of the caves in the Flinders Ranges.

It is interesting for it's mining relics and for mummified specimens of the locally extinct Ghost Bat ( Macroderma gigas ), both of which should be left undisturbed.

The cave has a vertical drop of 63m from the entrance to the bottom chamber and is one of the few good vertical pitches in the state.

The temperature of the cave is 20+ degrees and smells strongly of ammonia when you first enter the upper chamber.

Although the Ghost Bat is no longer present, the Little Brown Bat (Vespadelus finlaysoni) is often found in warm sheltered sections of the roof, particularly in the small oval shaped chamber in the lower level.

#### Access

A walk of 10 minutes to the cave from where you can park cars.

## Rigging

The best way to see the cave is using SRT.

The total pitch length is 65m.

## 20m The Entrance Chamber

- a 6m trace around a large boulder at the lower side of the entrance provides a good belay for a 25m rope to reach the first bolt.
- A No. 4 friend or trace around other boulders on the opposite wall can provide an anchor for a traverse line on and off the rope at the top or tie off from other boulders.

## 45m The Main Pitch

- Rebelay at the bolt and tie in a 50m rope, a rope protector is needed at the lip. Some care is needed for the loose rock just below the rebelay.
- Two further bolts are used for redirections before a rebelay where the shaft narrows to prevent a large rub point.
- You may have to swing out to clip the second redirection hanger which is on a wall beneath an overhang.
- Just before the floor there is a rub point on the rock, a rope protector is useful here.

The cave lacks natural belay points and the fixed rigging provides a quick and efficient trip to the bottom. All the bolts are fixed with hangers in place.



#### Caves of the Flinders Ranges

A bit of care in this cave is worth while because of the remoteness of it's location.

Land use

The cave is in the Gammon Ranges National Park, and specific permission is required from the Department of Environment and Natural Resources.

Maps

5F9.CEG119

## Warraweena Cave

#### 5F10

The cave was discovered in 1906 when the Manager Mr. Nicholls poked his wooden leg into the hole and then moved a rock to reveal the entrance.

The small entrance is in the saddle of a hill. The passage descends steeply 17m to very large chamber with a rock fall floor. From here there passages leading to a lower level in the rock.

Many parts of the cave are covered with very sharp dogtooth calcite crystals, and great care needed when visiting the cave. There was some damage to the cave prior to the gate being installed. Only small experienced parties should visit the cave.

The cave contains cave crickets, and has contained small pools of water.

Access

A 4WD vehicle is needed for the drive to the cave which takes several hours. There is a 10 minute climb up to the cave from the cars. It usually takes 2 hours or more to see the cave. Thick gloves and kneepads are recommended as the floor of the cave is sharp.

The cave is gated and a key from CEGSA is required.

Land use

The cave is in a pastoral lease, and specific permission from the lessees is required to visit the cave.

Maps 5F10-CEG1021

## Woodendinna Cave, Narrina Cave, Lake Cave 5F11

A climb down 4m leads into 30m of passages to the main lake. Two low-roofed extensions lead to an additional two small lakes. The main lake chamber is 20m by 20m and 3m high.

The cave has extensive underwater sections, which can only be visited by SCUBA diving.

In 1970 when the cave was systematically surveyed, the low water level in the south western lake, allowed swimming access to an additional level in the cave known as the *Clayballs* extension.

Since the floods of 1974 when the cave was filled with water except for the entrance passages, *Clayballs* has only been able to be visited by diving a sump to a small air chamber, below the *Clayballs* entrance. The Main Lake joins to the other lakes via underwater connections.

The maximum water depth in the cave is 18m. The water temperature 23° C and the air temperature 22° C.

Narrina cave is well decorated, with extensive wall coral, stalactites, flowstone and some cave pearls. There are also good examples of the phreatic development of the cave, with some fine speleogens, particularly roof pendants. There are extensive sections of calcite flakes on the margins of the main lake.

Caution is required if diving the lower levels of the cave known as the *Inner Sanctum*, this region is prone to silting and the cave water in this section can take days for the silt to re-settle. There are still some unexplored leads in the underwater section of the cave, but only for experienced penetration divers.

#### Access

The cave is gated and a key from CEGSA is required. At the time of writing, access arrangements are being negotiated with the lessees.

A usual visit without photography to see the cave takes one hour.

An air mattress enables access to the cave lake areas. The water is cold enough to need at least a 3mm wetsuit if you are in the water for an extended period. A diving mask and water proof torch are also useful to see more of the cave beneath you.

Cave Diving in the cave.

To dive the main part of the flooded cave sections the diver should have training and experience at the Cave Divers Association of Australia (CDAA) *Cave* standard or equivalent.

To visit the inner sanctum and other side passages the diver should have training and experience at the Cave Divers Association of Australia (CDAA) *Penetration* standard or equivalent.

Great care must be taken by any divers in moving equipment through the cave, and all ASF codes for Ethics, Conservation and Minimal Impact, must be followed.

Cave diving in this cave is strictly controlled.



## Rigging

There is a 4m free climb into the entrance, a handline may be useful with some groups, particularly if moving diving gear into and out of the cave.

Land use

The cave is in a pastoral lease, and specific permission from the lessees is required to visit the cave. Access arrangements must be sought from the South Australian Speleological Council prior to any intended visit.

Maps 5F11-CEG1022

#### **Backwater Cave**

5F12

This cave has formed in dolomite. The entrance is a dry pot-hole which leads via a small passage to an intermittently water-filled section. There is some dormant calcite formation. The cave contains occasional bats, and was mined for guano.

Land use

The cave is in a pastoral lease, and specific permission from the lessees is required to visit the cave.

## Bunyeroo Gorge Cave

The entrance to the cave is a small hole situated in between boulders. The passage drops 1m to the floor of the first chamber. The cave has one passage 13m long and 3m by 3m high. At the end of this is a cross passage. There is a climb up a roof hole on a side wall, this extends for 23m. There is some good decoration in the cave, including crystals on the floor, cave pearls, and a crystal covered stalagmite in the terminal chamber.

5F13

The cave can have many bats present.

Access

It takes 10 minutes to walk to the cave. The cave takes up to 1 hour to see.

Land use

The cave is in the Flinders Ranges National Park, and specific permission is required from the Department of Environment and Natural Resources.

## **Wilcowie Cave**

5F14

A dry pothole entrance leads steeply for 12m down a narrow inclined passage.

There is another small cave nearby.

Land use

The cave is in a pastoral lease, and specific permission from the lessees is required to visit the cave.

## Eyrie Cave

5F15

This is a large single chambered cave 40m long by 6m high, there are two entrances, but one is choked with formation, so the main entrance, which has occasional water inflow from the surrounding rocks, is the one used.

It is well decorated with large columns, stalactites stalagmites and flowstone. The cave is high on a ridge and follows the 40° dip of the rock. The decoration is mostly old and massive with some active straws deeper in the cave. Careful observers may also see some splash-formed helectites, on small stalagmites in the cave.

The floor is a mixture of rock breakdown and grey powdery silt. There was a dig into this choking dust which extends 13m. There is some tarry guano in the entrance.

There has been some damage to the cave over time, but it is a remarkable feature of the range.

Access

A walk of up to 60 minutes to the cave, into a horizontal entrance. The cave usually takes  $\frac{1}{2}$  an hour to see, or longer with some photography.

There are now two routes to the cave. One is a long walk through sharp hills with small winding gorges which is recommended for it's scenic values. The other route is more direct, but a 4WD vehicle is needed to negotiate the track. Look for the white rocks high on the hill about 10m from the top of the ridge.

There are excellent views across the Bunkers Range from above the cave.

Land use

The cave is in a pastoral lease, and specific permission from the lessees is required to visit the cave.

Maps

5F15-CEG1011

## **Two Quid Cave**

5F16

This cave is an 8m deep pothole which leads to a dry rock choke. It has not been well located for the last 10 years. Geckos have been recorded in the cave. Further leads are likely, however this is not promising, in fact a trip report of 27/4/58 described 5F16 as "..only a tortuous sinkhole..".



Land use

The cave is in the Flinders Ranges National Park, and specific permission is required from the Department of Environment and Natural Resources.

## **Clarkes Cave**

5F17

This cave has two entrances. The F17 entrance is a dry pothole that leads to small network of silt floored passages with a total length of 40m. The other entrance is blocked by rock choke. The cave requires extensive crawling to see all of it and some difficult leads may be possible. Occasional bats have been recorded in the cave.

Land use

The cave is in a pastoral lease, and specific permission from the lessees is required to visit the cave.

Maps 5F17-CEG1012

## Squeeze Pot, Squeeze Pot Cave 5F18

This cave has a solution tube entrance with a tight section part the way down the pitch. The cave is thought to have formed by water passing through a fault in the hill. There are small crevasses at bottom that are impassable.

The cave has formed through joint enlargement across beds with a 30 ° dip.

There are many other karst features near this cave.

Insects have been recorded in the cave as well as accidental trogloxenes.

Access

30 minutes to see cave Rigging

30m Pitch This requires a 30m ladder and appropriate belaying equipment.

Land use

The cave is in a pastoral lease, and specific permission from the lessees is required to visit the cave.

#### Joint Cave, Crevasse Cave

5F19

Joint Cave has two independent joint entrances which meet at right angles at 10m. One of these is too small to enter and is choked with rock. The joints are 0.5m wide. There is some decoration present in the cave.

There are several other small eroded vertical joints in the rock of the adjacent gully.

Access

It usually takes 30 minutes to see the cave, excluding belaying and rigging time.

#### Rigging

There is a 28m pitch into the cave. This can be free climbed if belayed. A 28m ladder and appropriate belaying equipment is usually required.

#### Land use

The cave is in a pastoral lease, and specific permission from the lessees is required to visit the cave.

#### **Orroroo Cave**

5F20

The entrance to Orroroo Cave is blocked with large metal trough. The entrance pitch is narrow and awkward. It corkscrews 8m down to a chamber.

There are several series of small joint controlled passages leading off this chamber. No breezes have been detected from these. The cave is very humid and warm and contains bat guano. There are rock hollows containing interesting crystal formations in the cave.

Bats and bones have been recorded in the cave.

There are tight and difficult leads in this cave, and because of this it is not fully mapped.

#### Access

There is a 5 minute walk to the cave. It usually takes an hour to see the cave, excluding belaying and rigging time. This time can be increased if the party is small in stature and can squeeze into some of the smaller passages.

#### Rigging

There is a 10m pitch into the cave.

A 10m ladder and appropriate belaying equipment is required. The belay point is some distance from the entrance and extra rope is needed for this.

Land use

The cave is in a pastoral lease, and specific permission from the lessees is required to visit the cave.

Maps 5F20-CEG1013

## Loch Nagar Cave

5F21

This cave has formed in quartzite. The 2m square horizontal entrance leads to a dry, single chamber; 9m long 8m wide and 3m high. It contains a small amount of decoration. There are ripple marks in the quartzite beds. Swallows have been present in the cave.

Land use

The cave is in a pastoral lease, and specific permission from the lessees is required to visit the cave. The surface is used as a wildlife refuge.

Maps 5F21-CEGR43I

## Gorge Cave

Gorge Cave is formed in quartzite. It has a horizontal entrance. The cave has an 8m crawl-way which leads to an 8m high fissure.

5F22

Land use

The cave is in a pastoral lease, and specific permission from the lessees is required to visit the cave.

5F23

Saltbush Gorge Cave

This cave is in the Parachilna area on or near Point Well Station. There are no details available and searches for this cave in the last twenty years have failed to relocate it.

**Anticline Cave** 

This cave has two entrances. The total length of the cave is 30m. From the main chamber which is 6m by 3m the cave passage meanders for another 15m. The cave contains tree roots and bones. There is some evidence that stick nest rats may have used the cave prior to their localised extinction. The floor is dry and dusty.

5F24

Land use

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The cave is in a pastoral lease, and specific permission from the lessees is required to visit the cave.

Maps 5F24- CEG545

#### un-named Cave

From the entrance the cave continues along an inclined fissure. There are some leads which have not been explored.

5F25

Land use

The cave is in a pastoral lease, and specific permission from the lessees is required to visit the cave.

#### **Burr Well Cave**

This cave was mined for guano and still contains occasional bats. The cave has formed in a cliff face above the creek and extends for 50m, through a series of tunnels.

Maps 5F26- CEG388, 5F26-CEG1016.

#### Lizard Cave

Lizard cave has two entrances, one is a 5m natural chimney ending at one side of a 4m diameter by 3m high chamber, the other is an dug shaft into the chamber.

The cave was mined at one time, and contains cave coral. Cave crickets have been recorded in the cave. A minor fissure and shale band are present on the south side of the chamber. There is haematite on the surface above the cave.

Lizard cave is located on top of a razorback ridge in line with 5F3 and 5F4.

Access

There is a 10 minute walk to the cave. It usually take 10 minutes to see the cave, excluding belaying and rigging time.

#### Rigging

There is a 6m pitch into the cave. A 6m ladder and appropriate belaying equipment is required.

Land use

The cave is in a pastoral lease, and specific permission from the lessees is required to visit the cave.

Maps 5F27-CEG51. 5F26

## **Chimney Cleft**

#### 5F28

This cave is a tall narrow cleft 12m deep in the side of the hill with a rubble choke at the bottom.

It is situated in a razorback ridge near F27. There are numerous other solution cracks and features in the area.

Bones have been found in the cave, and some further leads may be possible.

Access

There is a 5 minute climb up from the creek bed. It usually take 10 minutes to see the cave.

A 4m free climb is required to visit the cave.

Land use

The cave is in a pastoral lease, and specific permission from the lessees is required to visit the cave.

Maps 5F27.CEG51.

## **Thunderdrum Cave**

5F29

The entrance is at creek level in a low cliff. After a low section that often contains a dead kangaroo, the cave leads to 30m of narrow joint controlled passages. The cave is an inflow system which is rare in the Flinders Ranges. The cave drains part of the adjacent creek during floods.

Through two digs are small side tunnels which follow the joints.

The cave is subject to flooding with silt and rocks being washed in. The dug squeeze is sometimes blocked after heavy rains.

The cave is 55m in length and more surveying is required to show all the known passages.

This a popular cave with caving clubs, and is often visited on the same day as 5F33.

Access

It takes 10–15 minutes to walk from where you can park a car to reach the cave. It usually takes  $1-1\frac{1}{2}$  hours to see the cave, particularly if the sections through the digs are explored.

Land use

The cave is in the Flinders Ranges National Park, and specific permission is required from the Department of Environment and Natural Resources.

Maps 5F29-CEG1020.



### **Terrace Cave**

#### 5F30

5F31

This is a small dry cave 2m long and 3m wide.

Land use

The cave is in the Gammon Ranges National Park, and specific permission is required from the Department of Environment and Natural Resources.

Maps 5F30-CEG524.

#### Un-named Cave

The entrance leads to a small cave 2m long and 2m wide.

Land use

The cave is in the Gammon Ranges National Park, and specific permission is required from the Department of Environment and Natural Resources.

Maps 5F30-CEG524.

#### Un-named Cave

#### 5F32

This cave contains a semi-daylight undercut dry chamber 3m long, 14m wide and 2m high.

Land use

The cave is in the Gammon Ranges National Park, and specific permission is required from the Department of Environment and Natural Resources.

Maps 5F30-CEG524.

### Yellow Foot Rock Wallaby Cave 5F33

This cave has a low entrance leads to a narrow inter-connected network. There is a second entrance to the cave, but it is too small to be entered. The cave has a dusty silt floor through which there are several dug leads. These are not fully explored or mapped. Some sub fossils have been found in the cave and the little Brown Bat (Vespadelus finlaysoni) is often found in small groups on the roof.

This a popular cave with caving clubs, and is often visited on the same day as 5F29.



#### Access

The cave takes about 30 minutes to walk to from where you can park a car. A typical visit to the cave ( unless you like digging in dust ) takes  $\frac{1}{2}$ -1 hour.

Land use

The cave is in the Flinders Ranges National Park, and specific permission is required from the Department of Environment and Natural Resources.

Maps 5F33-3128.

#### Wichata Cave

This cave has formed in dolomite. After a pothole entrance a passage leads off for 8m.

### False Wall Cave

A pothole entrance leads to a dry chamber with some calcite formation. The chamber is 15m long by 3m wide. Some leads are possible from this chamber.

5F34

5F35

Land use

The cave is in a pastoral lease, and specific permission from the lessees is required to visit the cave.

#### Un-named Cave

This is a fissure cave which is perennially active. The cave is 4m deep with some difficult unexplored leads.

5F36

#### Land use

The cave is in a pastoral lease, and specific permission from the lessees is required to visit the cave.

#### **Bandoona Cave**

Two entrances 1.5m high lead to a low chamber 3m wide and 5m long with roof height varying from 1.0–0.7m.

5F37

Land use

The cave is in a pastoral lease, and specific permission from the lessees is required to visit the cave.

Maps 5F37-CEG1232.

Fearby's Cave

# Lookout Cave

A large enlarged horizontal joint in the entrance leads to a small cave in limestone on top of a high hill. The cave is used as a shelter for animals, including kangaroos, wallabies, bats, owls, and reptiles. There are droppings and bones in the cave.

Land use

The cave is in a pastoral lease, and specific permission from the lessees is required to visit the cave.

# Watt's Cave

extends into the hill. It contains bone breccia.

Land use

The cave is in a pastoral lease, and specific permission from the lessees is required to visit the cave.

Miners Cave

This cave has a walk in entrance, hidden in narrow gorge. The cave was used for human habitation by miners. It has several chambers with enlargement along vertical joints

5F40

The cave is in a pastoral lease, and specific permission from the lessees is required to visit the cave.

The cave is in a pastoral lease, and specific permission from the lessees is required to visit the cave.

5F41 This elongated entrance is perched on a cliff face adjacent to F39. The cave is joint enlarged and

Land use

solution type enlargement. It contains Sticknest Rat nests and other animal bones.

Land use

Land use

D complex cave

The cave is in a pastoral lease, and specific permission from the lessees is required to visit the cave.

**Medlins Cave** 5F39

The entrance is a circular hole in an archaeocyathid limestone cliff. The cave is a horizontal, joint and

The entrances are vertical joints in limestone 3m high by 0.8m wide. The cave is joint enlarged with multiple entrances and multiple levels. It contains much bone breccia and guano and is a roosting site for bats and owls. It is an animal shelter.

5F38

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5F43

The cave is 3m long by 3m wide and has perennial inflow.

Land use

The cave is in a pastoral lease, and specific permission from the lessees is required to visit the cave.

### Hardy's Cave

Three entrances lead into a dusty cave with low flatteners in silt and guano. The cave is 15m long by 6m wide and has perennial stream inflow.

5F44

Land use

The cave is in a pastoral lease, and specific permission from the lessees is required to visit the cave.

#### **Blue Wren Fissure**

This cave is a large fissure in limestone on Mt Chambers. The cave is 70 m long and 23 m high with undercut sections. It has a rocky floor with deep silt in places, which contains large deposits of bone and guano from mammal and bird species.

5F45

Land use

The cave is in a pastoral lease, and specific permission from the lessees is required to visit the cave.

Maps 5F45.CEG3133.

### Two Moro Cave

This cave has an open entrance leading to a chamber 8 m by 8 m. The floor contains rimstone pools and flowstone. It also contains stalagmites and cave coral over the roof and wells. The cave is adjacent to a large exposed flowstone cliff and permanent waterhole.

5F46

### Moro Bat Cave

This is a horizontally developed cave in a cliff above a permanent stream. The cave is humid and has a silt floor. The horizontal joint extends back 30 metres to a squeeze. The roof height ranges from 3 metres to 0.5 metres. The Little Brown Bat *Vespadelus finlaysonii* is present in the cave.

5F47

5F48

## **Dust Cave**

This cave is adjacent to F 47. It is a small, dry, dusty cave used as an animal shelter. The cave is 3 m by 5 m with a 1 m roof height.

#### **Brachina Bat Cave**

Entrance is 4 m wide by 8 m high in cliff overlooking the valley. The cave is 25m by 15m with a ceiling 6 to 10m high. The floor dips at 30° along the long axis. The is a colony of the Little Brown Bat *Vespadelus finlaysonii* present in the cave. Other animals use the cave for shelter. The floor contains guano and bones.

Land use

The cave is in the Flinders Ranges National Park, and specific permission is required from the Department of Environment and Natural Resources.

#### un-named Cave

A small crawl in the entrance leads along a joint in sandstone to a 10m long cave.

#### un-named Cave

This cave is near F50. It is a small crawl in sandstone along a joint enlargement above the creek line. It is used as an animal shelter.

5F52

5F53

5F50

5F51

#### Adit Cave

This is a vertical joint enlargement in limestone at the end of a dug adit. It rises vertically for 6m and has not been explored. Care is needed to ascend the aven. The cave contains many Little Brown Bats *Vespadelus finlaysonii*.

#### Walpunda Blow Hole

The entrance is a 3.5m circular shaft dropping 33m to a horizontal enlarged cave. There are loose rocks in the shaft and high carbon dioxide levels. Forced ventilation of the cave to reduce the carbon dioxide levels is required and extreme care needed for the loose rock.

#### Jack's Hole

This is located 1km west of F6. The entrance is circular and pothole type 0.8m in diameter. The pothole is filled with rubble at two metres depth.

#### Para Cave

The entrance slopes 45° along a joint to 20m of passage. There is some evidence of digging in the a cave.

#### Bucket Cave

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# 5F49

#### 5F54

5F55

The entrance is a tube tunnel leading from a blind valley/doline. The tunnel extends 2m to a chamber 2m by 3m wide, followed by a passage 25m long into the limestone. It was mined for guano. Little B Cave 5F57

The entrance is 2m above creek 750m from F61. The entrance and cave is 1m wide by 0.5m high. The cave is an enlarged joint passage which extends for 20m.

#### un-named Cave

The cave is a horizontal joint in sandstone 6m wide by 6m deep, with an average height of 1.5m. It is used as a rock shelter by animals, with guano and bones present in the cave.

#### **Enorama Cave**

The walk in entrance dips at 30°. The cave is 50m from the top of a hill. The cave is a 12m long joint enlargement. There are some passages at right angles to the main passage. Some digging is required

#### **Mt Scott Cave**

A low flattener entrance leads to a joint enlarged cave under massive limestone blocks. The cave is 10m long by an average of 1 metre high and 1 metre wide. It is damp and has bones present.

#### **Opuntia Cave**

The entrance is 4m by 4m and is above the creek. The cave is a 6m by 9m oval shape with a flat 6m high roof. The cave contains the Little Brown Bat Vespadelus finlaysonii. There are bones and guano on the floor which is also used extensively as a shelter by many animals.

### **Oratan Rock Cave**

The entrance is large and circular. It is near the top of a very prominent hill, 45 km SE of Yunta. The cave is a double chamber connected by high vertical passages, which lead to tight passages lined with crystals.

### **Fire Cave**

This cave has a large and prominent 6m high entrance near Brachina Creek. The cave is a large chamber 20m by 10m and 6m high. It has been in use extensively for camping and is smoke stained thoughout. Several small side passages lead to silt choked flatteners.

### Poke Cave

A small flattener entrance 1m wide by 0.5m high in a limestone cliff leads along a 5m passage to a vertical rift covered in flowstone, cave coral and shawls.

**Black Cave** 

#### 44

## 5F63

# 5F59

5F58

5F61

5F60

5F62

5F64

The small I metre by 0.8 metre entrance leads into a 3m by 2m chamber 2.5 metre high. The cave is in redeposited limestone and is blackened by smoke. Decoration includes shawls and flowstone.

## Out Flow Cave

The entrance is 6m wide by 3m high. The cave is 15m high by 5m spiralling vertical shaft heavily decorated with stalagmites, stalactites, shawls and cave coral. It is situated in very prominent and massive redeposited limestone waterfall. This Cave is fragile and exploration should be minimised.

#### P. Pot

The entrance is a pothole  $0.3m \ge 1.1m$  dropping 8 m to the mud floor of a joint controlled cave 5.5m by 1.1m wide.

#### **Ridge Pot**

The entrance of this cave is an oval solution tube 1.5m by 0.2m diameter, which drops to a choke in rubble at 11m depth.

#### Gum Creek Cave

The entrance is on side of a creek which flows perennially into the cave. The cave is a large joint passage extending 220 metres which ends in damp silt flatteners. It is not fully explored or mapped. There are many side passages and flatteners, extending from the main passage.

#### Mount Hack Cave

This has a small entrance leading from a creek to a single well decorated chamber, 5m in diameter.

#### **Trezona Cave**

This cave has a small single chamber 3m by 5m wide and 4m deep. It takes water from the creek.

#### False Cave

The entrance is a slit in a limestone cliff leading to 6m long enlarged joint with cave coral.

#### **Cistern Cave**

This is a doline on a ridge top, 2m deep by 10 m in diameter. It drains into a steep tunnel through an unstable rock-pile 20 m long. This rock-pile leads to narrow fissure 0.5 m wide by 15 metre long, which chokes into a flattener. There are other unexplored side passages. The tunnel through the rock-pile is unstable and care should be exercised in exploration.

#### Steam Pot

#### 5F74

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# 5**F**66

# 5F68

5F69

5F67

5F70

5F71

5F72

A doline 15m diameter drains into a water worn solution tube 6m deep to a fissure 0.3 metre wide by 4m long in dolomite. The fissure is deep but at this stage too narrow to descend. Digging equipment is needed to penetrate further into the cave. The expected depth in excess of 15m to watertable.

Un named Pot Hole

An oval solution tube  $1m \ge 0.5m$  drops 7 m to a rock choke in a vertical fissure in dolomite. It is adjacent to F18.

#### Un named Pot Hole

Twin potholes 0.2m by 0.3m and 0.6m by 0.3m spiral vertically into a joint enlargement to a 10 m deep choke in dolomite. It is near F 19.

#### Un named Cave

This is a small cave on a ridge with a dug entrance near Lance Bore. The cave is 8m long by 2 m wide by 1m high in conglomerate rock.

#### Collapse Dolines

These are two dolines on a ridge 6m in diameter and 3 mdeep adjacent to F 73.

Un named **Doline** 

This is a doline 5m by 1m deep, previously filled in and now collapsing.

#### Expired Macropod Cave

This is a small cave near Wooltana Cave. It is in the side of small cliff, extends for 8m. It is 1.0 m wide by 8 m long and is 0.7 m high. The cave has a dusty silt floor and is used as animal shelter with many scats being present.

Land use

The cave is in a pastoral lease used for a Geological Sanctuary, and specific permission from the lessees is required to visit the cave.

Maps 5F80-CEG3053

### **Perch Cave**

5F81

This is a cave in a cliff 20m above Big Moro creek. It is a joint enlargement in sandstone. The cave is 10m by 8m with a vaulted roof 5m high.

# 5**F**76

5F77

5F75

5F78

5F79

#### 5F82

This cave is 10m by 15m, in sandstone, near the top of a cliff, 20m above Big Moro Creek. It is used as an animal shelter.

**Collapse Cave** 

Attic Cave

This is a large collapsed doline with a small cave undercut in the limestone wall. Much of the doline has been in-filled with clays from the nearby stream, during floods. This has not been fully explored under the overhang due to the nature of the collapse.

#### Wild Dog Cave

This is a small cave adjacent to a 30m waterfall and permanent waterhole. It contains much guano and animal material. There is evidence of bats and cave crickets. Some rare ferns grow around the moist entrance. The cave is 10m by 2m, with an entrance of 5m by 6m. It is used by Dingoes as a lair. This is an Aboriginal sacred site.

5F85

#### **Dulux Cave**

This cave has multiple entrances. It has formed in sandstone near Stubbs Waterhole. It has recent paintings, and bat guano. It is 6m by 4m and 2m high.

#### Stubbs Waterhole Cave

This cave is near F85. It is a small cave 4m by 5m in sandstone, near Stubbs Waterhole. It is used as an animal shelter and has some bone and guano present.

5F87

#### Angepena Cave

This is a small cave used as a rock shelter near a waterhole. It has formed in limestone, and is 4m by 10m with a 3m high roof. It has multiple roof windows.

#### **Mt Serle Cave**

This cave has vertical joints choked with animal guano. It has formed in a limestone cliff near a creek.

#### **Blinman Bat Cave**

This cave was mined for guano and extends for 150 metres. There is some calcite formation in the cave. It has two entrances, one of which is a walk-in entrance. There is an intermittent stream passage and damp silt on the floor. There are some dusty sections and side flattener passages. Calcite and gypsum crystals are found in places. The cave has been used by a bat colony and as a shelter by other animals including stick- nest rats.

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Maps

# 5F89

# 5**F**88

#### 47

5F86

5F83

5F89-CEG4009.

## Un named **Pot Hole**

This is a single pothole 1 metre diameter which drops to 10 metres, west of Oraparinna Cave.

5F90

5F91

5F92

## Tube Cave

Small horizontal joint enlargement near edge in limestone.

## Aroona Dam Cave

This small cave in sandstone has formed in a an hilltop. It is a circular cave 5 m by 5 metres near the top of a hill overlooking Aroona Dam. It is used as an animal shelter and has much bone detritus and owl pellets with other guano present.

5F93

### **Twin Holes Cave**

These are two circular pits near Lance Bore. These two pits are 3 metres in diameter and drop to 3 metres as blind tubes in limestone.

#### Noolodoonooldoona Cave 5F94

This cave has a large horizontal entrance in sandstone perched 25 metres above a creek in a large cliff face. The cave extends back in join to 10 metres. It is a nesting place for birds and bats and there is much bird guano present.

5F95

5F96

5F97

5F98

#### Un named Pot Hole

This pothole is near "P" Pot and is a solution tube 1m in diameter dropping down 6 metres to a rock choke in dolomite.

### **Un named Cave**

This cave is in a metamorphosed sandstone hill. The cave is a small chamber 2m by 5m, and is used as an animal shelter.

Un named Cave

Cave is a small chamber formed in sandstone. It contains animal guano and bones. The cave is 2 metres wide by 7 metres long and is a horizontal flattener.

Un named Cave

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5F102

This cave has a circular entrance 1m wide. The cave is a 3.5m hole.

This cave has a slot entrance 0.4 metre wide and 1 metre high. The cave is a slot passage 4 metres to a T section with a 7.5m long passage at right angles, to it.

The entrance is a vertical joint near F60 Cave The cave is vertical a slit dropping 4 m into a horizontal joint controlled passage 6 metres long.

The entrance of this cave is a bridge of limestone over a hole 1 metre wide. The cave is a 3 m vertical slot 1.5 metre wide.

Memorial Cave

This Cave is a large flattened chamber that slopes up into sandstone hill adjacent to F 96 and F 97. It is 15 metres long and 5 metres wide with a 2 metre roof height tapering down to a squeeze The Cave is a very hot and humid and has much guano on the floor.

This is a tourist Cave bat that has aboriginal engravings and artwork contained behind a grilled area. The cave/overhang is over 20 metres long.

**Collapse Cave** 

Un named Cave

**UN Pot** 

Tight Pot

Slit Cave

**Boulder Cave** 

Yourambulla Cave

This Cave is on the edge of a doline of 8m in diameter above a perennial creek. The cave leads off from the doline in an entrance of 3 metres wide by 1 metre high, The cave is a double chamber that slopes gently to a sandy damp silt floor the overall size of the Cave is 25m long by 8m wide and has height from 4m down to 0.5m. It has potential for further exploration and there is some evidence of digging at one end.

This is a collapsed doline with a small vertical rift taking surface run-off water into a 6m deep fissure. The fissure is 10m long and 1.8m wide. The joint has been enlarged, but further work is needed.

#### **Caves of the Flinders Ranges**

5F99

5F101

# 5F103

# 5F104

# 5F105

# 5F106

#### 49

The entrance is on a cliff face 20 m in a creek bed. It is 2m high and 1m wide. The cave is a 3 m long and 2 m high chamber. The cave has many dated inscriptions which may be of historic significance to nearby the Burr Well cave.

Un named <b>Cave</b>	5F107
Details were not available for publication.	
Un named <b>Cave</b>	5F108
Details were not available for publication.	
Un named <b>Cave</b>	5F109
Details were not available for publication.	
Un named Cave	5F110

This cave has a circular entrance 1.5m in diameter. The cave is an 8m vertical tube.

#### Fighter Cave

A slot tube 0.75m in diameter leads to two pitches of 2.5m, a section of short passage and then a 20m pitch. The main chamber below this is a narrow rift 10–12 m high.

5F111

5F112

5F113

5F114

5F115

The cave contains sub-fossils, some of locally extinct species of mammals. These include Yellow Footed Rock Wallaby, Lesser Stick Nest Rat, Western Barred Bandicoot and Western Quoll.

#### Un named Cave

The entrance to this cave is 1m in height. The cave is 2m in length.

Un named Cave

This is a feature in a limestone knoll. It contains a small entrance too small to enter, but a breeze is present.

#### Bat Cave

This cave is in limestone near the amphitheatre. It contains a colony of The Little Brown Bat *vespadelus finlaysonii*. It is a small joint enlargement cave.

#### Waterfall Cave

This cave is a deep vertical fissure in limestone 10 metres high by metre wide by 10 metres deep near waterfalls in Chambers Gorge.

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## Flinders Ranges Region Cave Map List.

Map Number	Description or notes	Surveyed	Scale	Grade	Date	Sections and Sheet size
5F1.CEG1003	Mt Remarkable Caves 5F1 Most of cave and location. This map	Surveyed & drawn R.T. Sexton	1:240	CRG 2	1955/56	PLX
5F1.CEG3116	is on the same sheet as F2 Mt Remarkable Blowhole 5F1 Cave and position of bolts.	Surveyed & drawn R.T. Sexton, traced and detailed P. Kraehenbuehl	1:500	CRG 2 ASF 1	1997	PL A4
5F1.CEG1003	Greys Hut Cave 5F2 Whole cave and a location. This map is on the same sheet as F1	Surveyed & drawn R.T. Sexton	1:240	CRG 1	1956	PL
5F2.CEG1019	Greys Hut Cave 5F2 Entire cave,	Drawn N.R. Hocknell		CRG 2	1966	PL 240 x140 mm
5F2.CEG3105	Greys Hut Cave 5F2 Entire cave.	Surveyed & drawn P.B. Kraehenbuehl	1:250	ASF 3,3	1995	PLX A4
5F3.CEG1009	Mairs Cave 5F3	Drawn A.L. Hill	1:240	CRG 5	1958	PLX
	Whole cave.					1070 x750 mm
5F3.CEG3117	Mairs Cave 5F3	Drawn A.L. Hill,	1:500	CRG 5	1997	Р
	Entrance and SW passages.	Traced P.				A4
		Kraehenbuehl				
5F3.CEG3118	Mairs Cave 5F3	Drawn A.L. Hill,	1:500	CRG 5	1997	Р
	NE passages	Traced P.				A4
	······································	Kraehenbuehl				
5F4.CEG1005	Clara St Dora Cave 5F4	Drawn R.T. Sexton	1:240	CRG 4	1956	PLX
	The entrance chamber and small	Drawn R. T. Sexton	1.240		1750	650 x 430
	passages with a location map.					050 x 450
5F4.CEGR143	Clara St Dora Cave 5F4	J. Dolan	1:240	CRG 4	1957	
	An upgrade of some passages.		1.210	end	1997	
5F4.CEG1014	Clara St Dora Cave 5F4	Drawn RT Sexton	1:240	CRG 4	1961	PLX
514.6261014	Additions to the cave : Crystal	Drawn ICI Sexion	1.240	CRO 4	1701	260 x 290 mm
	Extension and the Birthday					200 X 290 mm
	Extension.					
5F4.CEG3119	Clara St Dora Cave 5F4	Drawn R.T. Sexton,	1:500	CRG 4	1997	Р
		Traced P. Kreahenbuehl				A4
5F5.CEG1006	Arcoota Creek Cave 5F5	Drawn A.L Hill	1:240	CRG 3	1956	PX
	The major parts of the cave and a					640 x480 mm
	location map.					
5FS.CEG1015	Arcoota Creek Cave 5F5	Drawn RT Sexton	1:240	CRG 2-3	1962	PLX
	Further extensions and the entrance.					720 x 280 mm
5F5.CEG1025	Arcoota Creek Cave 5F5	ID Lewis	1:500	CRG 3	1974	Р
	Surface map of features found above					330 x 200 mm
	of cave.					
5FS.CEGR75L	Arcoota Creek Cave 5F5					
5F5.CEGR8SL	Arcoota Creek Cave 5F5					

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5F5.CEG3120	Arcoota Creek Cave 5F5	Drawn A.L Hill,	1:500	CRG 3	1997	Р
		Traced P.	1.500	ends	1997	r A4
		Kraehenbuehl				
5F6.CEG1000	Good Friday Cave 5F6	Dept. Mines	1:240	CRG 3	1933	210 x 240 mm
	Part of the cave and adjacent shaft .					
5F6.CEGR75	Good Friday Cave 5F6					
5F6.CEG542	Good Friday Cave 5F6	Surveyed and drawn	1:250	ASE 2-3	1983	Р
554 05 02121		N.I. Smith				A2
5F6.CEG3121	Good Friday Cave 5F6	Surveyed and drawn	1:500	ASF2-3	1997	Р
		N.I. Smith, Traced P. Kraehenbuehl.				A4
5F7.CEG1024	Mt Sims Cave 5F7	Drawn WR Goedecke	1:240	CRG 5	1971	PLX
	Whole cave.			one p	1971	840 x 790 mm
5F7.CEGR75	Mt Sims Cave 5F7					
5F7.CEG3122	Mt Sims Cave 5F7	Drawn WR Goedecke	1:500	CRG 5	1997	Р
	Entrance to the lake chamber	Traced P. Kraehenbuehl				A4
	Oraparinna Cave 5F8 The larger sections and entrances.	Dept. Mines	1:300	CRG 5	1933	P 470 x 440 mm
5F8.CEG1002	Oraparinna Cave 5F8 Large sections and entrances	Dept. Mines	1:600	CRG 6	1933	Р
	-					220 x 200 mm
5F8.CEG1010	Oraparinna Cave 5F8 Tracing and small additions (NW section)	Drawn R.T. Sexton	1:300	CRG 3-5	1958	P 880 x 580 mm
5F8.CEG1010	Oraparinna Cave 5F8 Tracing and small additions (NW section)	Drawn R.T. Sexton	1:300	CRG 3-5	1958	P 880 x 580 mm
5F8.CEG3123	Oraparinna Cave 5F8	Drawn Mines Dept Traced P.	1:1000	CRG 5	1997	P A4
5F9.CEG119	Wooltana Cave 5F9 Whole cave.	Kraehenbuehl Surveyed P. Kraehenbuehl, D.	1:500	ASF 4,2	1989	A4
5F9.CEG3124	Wooltana Cave 5F9	Trehearne. Surveyed P.	1:500		1007	
317.CE03124	Whole cave.	Kraehenbuehl, D. Trehearne.	1.500	ASF 6,5– ASF 5,5.	1997	PLX A4
5F10.CEG1021	Warraweena Cave 5F10 Whole cave and location sketch.	Drawn WR Goedecke	1:240	CRG 4	1970	PLX 620 x 580 mm
	Entrance chamber and location sketch.	JD Bishop	1:600	CRG 1	1963	P 200 x 200 mm
5F11.CEG1022	Woodendinna (Narrina) Cave 5F11	Drawn W.R.	1:240	CRG 6	1970	PLX
5F11.CEG1023	Whole cave, above the water level. Woodendinna (Narrina) Cave 5F11	Goedecke Drawn W.R.		CRG 5	1971	560 x 520 mm P
5F11.CEG97	Location plan of immediate area. Woodendinna (Narrina) Cave 5F11	Goedecke				230 x 260 mm
5F11.CEG3130	Woodendinna (Narrina) Cave 5F11 The underwater extent of the cave and lake levels at 1985. Published;	Surveyed and Drawn P. Horne	1:500	ASF 2,2	1985	PL A4
5F11.CEG3130	CEGSA Newsletter, Vol 32 no.3 p46. Woodendinna (Narrina) Cave 5F11	Surveyed and Drawn P. Horne, W.R. Goedecke. Traced P. Krachenbuchl.	1:500	CRG6 ASF2,2	1997	PL A4
5F13.CEGR447	Bunyeroo Gorge Cave 5F13	P. Connard			1965	Р
5F15.CEG1011	Location map. Eyrie Cave 5F15	Drawn R.T. Sexton	1:240	CRG 4	1958	200 x 250 mm PLX
5F15.CEGR141	Whole cave and location diagram. Eyrie Cave 5F15	VA Linke	1:63360		1957	530 x 260 mm P
5F15.CEG3126	Location sketch. Eyrie Cave 5F15	Surveyed R.T. Sexton	1:500	CRG4	1997	330 x 200 mm PLX
		Traced P.		01107		A4

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5F17.CEG1012	5F17 Whole cave and location sketch.	Kraehenbuehl Drawn R.T. Sexton	1:240	CRG 6	1958	PLX 300 x 290 mm
5F20.CEG1013	Orroroo Cave 5F20 Most of cave and location sketch.	Drawn W. Walsh	1:240	CRG 1	1959	PX 200 x 200 mm
5F20.CEGR308	Orroroo Cave 5F20					200 x 200 mm
5F20.CEGR609 5F21.CEGR431	Orroroo Cave 5F20 Loch Nagar Cave 5F21	Drawn W.H. Rouse	1:240	CRG 2	1964	PL
5F21.CEGR431	Whole cave, location sketch and F22. Gorge Cave 5F22	Drawn W.H. Rouse	1:240	CRG 2	1964	Р
5F24.CEG545	Whole cave ,location sketch and F21. Anticline Cave 5F24	Surveyed K. Mott	1:250	ASF 3,3	1984	PLX A2.
5F26.CEG388	Burr Well Cave 5F26 Whole cave	Surveyed J.W. DeGraaf	1:250	CRG 3	1977	PL A2
5F26.CEG1016	Burr Well Cave 5F26 Whole cave	Drawn VA Linke	1:120	CRG 2	1962	PLX 730 x 480 mm
F27.CEGR530	Lizard Cave and Chimney Cleft Location map in CEGSA records p 526.	Drawn G. Gartrell	NTS	CRG 2	1968	P 150 x 150 mm
5F27.CEG51	Lizard Cave 5F27 whole cave and relationship to F28	G. Pilkington	1:250	CRG 3	1974	PLX A2
5F27.CEG51	Chimney Cleft 5F28 whole cave and relationship to F27	G. Pilkington	1:250	CRG 3	1974	PLX A2
5F29.CEG1020	Thunderdrum Cave 5F29 Whole cave and location	Surveyed S and I Holt	1:120	CRG 3	1968	PLX
5F29.CEG3127	Thunderdrum Cave 5F29	Surveyed S and I Holt	1:250	CRG 3	1997	510 x 430 mm PLX
5127.0205127	Whole of cave.	Traced P. Kraehenbuehl	1.250	CRO J	1997	A4
5F30.CEG524	5F30, 5F31, 5F32	Surveyed and drawn K. Mott.	1:250	ASF 4,4	1978	PLX
	Whole caves and relationship of 5F30 to 5F31.					A2
5F33.CEG3128	Yellow Foot Rock Wallaby Cave	Surveyed and drawn	1:250	ASF 3,2	1997	Р
	5F33	S. Flavel. Traced				A4
	Survey sketch of the whole cave,	P. Kraehenbuehl				
5F37.CEG1232	original held by S. Flavel. Bandoona Cave 5F37	Surveyed and drawn	1:100	ASF 2,2	1980	Р
		J. Ellis.		,-		- A4
5F45.CEG3129	Blue Wren Fissure 5F45	Surveyed and drawn G. Medlin.	Apx 1:70	?	1983	PL
	Survey sketch of the whole cave.	Surveyed & drawn				9x A4
5F80.CEG3053	Expired Macropod Cave 5F80 Whole cave.	P.B. Kraehenbuehl	1:250	ASF 3,3	1988	PX A4
5F89.CEG4009	Blinman Bat Cave 5F89	Surveyed and drawn	1:250	ASF 5,3		PX
	Whole cave.	G. Woodcock.				
5F106.CEG3131	5F106	Sketched E. Rubessa.	NTS	ASF 1,1	1994	P A4
5F111.CEG3132	Fighter Cave 5F111	Sketched E. Rubessa.	NTS	ASF 1,1	1996	PL
				,-		A4
	Cave Area Maps					
	Wa1punda Creek Area					
		<b>D</b>	422-1 ''		10/0	
5F.CEG1245	Locations of F5, F17,F44, F43 Locations of F5, F6, F7	Drawn A.L. Hill Drawn G.C. Kelly	4"=1 mile	CRG 2	1968	Р
	Records P.75	Diawii G.C. Kelly				r 200 x 250 mm
						200 / 200 mm

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