

The Nullarbor

6N1 - Koonalda Cave By Paul Hosie
(WASG). All pictures by Kevin Moore.

An unassailable jumble of boulders rose vertically from the water of the terminal lake and up into inky blackness. This was the 'end' of Koonalda Cave that faced cave divers Andrew Nelson, Paul Boler (both NHVSS) and the author (WASG) in January, 2005. This visit had followed five years of pondering the possibilities of this enormous cave, ever since the SUSS 'Escape the Olympics' expedition in September 2000. Attempts to push the cave as far as possible by cave diving had been made but all leads pinched out. Avens and other roof holes had been climbed near the cave's end with no continuation found. It all came back to the vertical boulder pile that was only accessible by diving a short, deep sump. It offered the only possible way on and it was straight up or whimper home! Being cave divers, these guys weren't smart enough to just leave it and go home, so an effort was made to 'suss out' the challenge.

After several attempts at free climbing the soft, crumbly limestone, a narrow ledge six metres above the water was reached. Before leaving, the author placed two

rock bolts and plates using a hand drill (NB. not a recommended technique!). The top of the rockpile was still some 20m directly above the ledge, but the roof was also visible and it had all the appearances of being the edge of a massive dome chamber roof. The perspective gained from the ledge was enough to convince the team that a return with full rock climbing equipment was the only possible way to scale the obstacle and explore the dome roofed chamber at the top. Digital photos were taken of the rockface which allowed some degree of planning for the future climb.

The permit was gratefully extended by South Australia's Department of Environment and Heritage (DEH) for a period of twelve months which allowed sufficient time to organise the return trip(s) as required. After failing to get a team together for a mid year trip, commitment was made to the October school holidays and a lead climber was found – all Phil Maynard (SUSS) had to do before the trip was to become a cave diver!



Entrance to Koonalda Cave



Return to Koonalda

It is one of the Nullarbor Plain's deep giants and amongst Australia's largest caves – up there with Abracurrie, Mullamullang and Weebubbie Caves. It is also an important heritage site where aboriginal people descended 70m underground to quarry chert (flint) for making into tools which were traded throughout Australia for tens of thousands of years. Koonalda's archaeological importance as well as its significance to indigenous Australians led to the gating of the massive cave entrance many years ago. Apart from being quite an engineering achievement, it also means that access is limited and very strictly controlled. Camping is no longer allowed near the cave and instead, the Koonalda homestead is used as a base camp, which leaves a five kilometre dirt track drive to and from the cave each day.

The team, comprising Keir Vaughan-Taylor, Kevin Moore, Phil Maynard (all SUSS) and the author met at Koonalda homestead on Monday 26 September 2005 after being on the road for up to 30 hours. Compressors and dive gear were unloaded, kitchen and bedrooms set up to achieve a fair degree of comfort for the following week it was planned to stay here. This turned out to be highly suitable as some of the nights were extremely cold, there were fearsome winds and even some rain, all of which would have been quite uncomfortable in a tent. DEH's primary concern however, was not for caver's comfort, but for protection of the cave's surroundings and the minimisation of further effluent being washed into the cave (following decades of sheep manure being washed in).

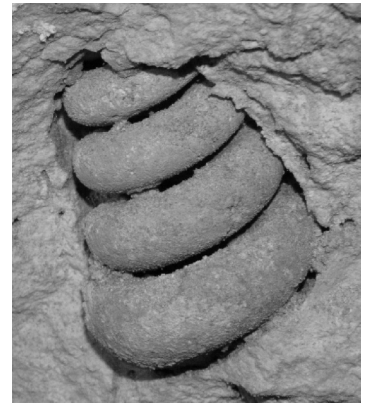


Koonalda caryard.

The Plan

It was expected to spend one day ferrying all the equipment in inflatable canoes as far as possible into the cave, before the three cave divers could make the final transit underwater through to the cave's terminal chamber. Once through, the divers would take it in

turns to progressively scale the rockface using double rope and cordless hammer drills together with 4 and 6 inch rockbolts to make the climb as safe as possible. It was anticipated this would take 2-3 days, all going well, but just how wrong could that possibly be?!! All the climbing equipment plus harnesses, tools, spares and food/drink were stored in sealed truck inner tubes to keep them waterproof for their underwater portage to the end of the cave.



Fossil in rock.

With the plan agreed, on Tuesday morning, the cars were packed up and everything moved to the edge of the 50m² entrance doline. Ropes were set up and the loads prepared for lowering into the doline. A brief 10m abseil is required to access the cave's entrance. At the NW end of the doline the aforementioned gated cave entrance provides access down the very steep talus slope to a branch in the giant passage some 60m under the surface. To the left the passage gently ascends to the archaeologically significant areas. The right hand path descends via a short steel ladder and past an old diesel engine pump left over from the sheep station days when water was pumped out of the cave to water stock. 150m past the pump, through a large, low-roofed horizontal passage, a massive 60m² dome room junction is entered. The cave continues in two major passages from the junction, one leads off to the south (dry) towards Look Down Lake, while the other heads NW across a shallow lake of putrefaction affectionately known as Shit Lake and onwards to the cave's end. It is at this point that the inflatable rafts are assembled and the inimitable Shit Lake is (carefully!) traversed to reach the mud island in the middle of the passage.

Cave Calisthenics

An awkward paddle, one at a time across to Mud Island enables the canoes and equipment to be ferried across and then carried the 50m to the far side of Mud Island, ready for the traverse of the Second Lake. The Second Lake is approximately 300m long and on average waist deep, with a soft mud base full of large, half buried boulders. The passage is approx 40m in diameter and the water is very cold – approximately 13°C, probably due to evaporative cooling, at least it doesn't stink of effluent. For these reasons, the group strived to stay dry by using inflatable canoes to raft across the lakes but this proved to be impractical and consequent



Lake 2.

Shit Lake ferry.



crossings were made in wetsuits whilst towing the canoes full of equipment. All the dive gear, climbing gear and one of the canoes were then ported over and around the enormous rockpile, down to the shore of the third lake where the water is (finally) crystal clear. With all the equipment on the shore of the third lake, the team retired from the cave and headed back to the homestead for a well earned, overnight rest.

Koonalda Homestead is a beautifully unique place, nestled amongst a group of ramshackle buildings which originally supported shearing crews, work sheds as well as a garage (including fuel pump!) to support the east-west Nullarbor traffic on the old Coach Road. The homestead itself is constructed from railway sleepers and the roof beams are railway track! DEH have restored the roof with modern corrugated roofing sheets and the toilet can be used with a manual (ie. bucket) flush system. Mice have made their home here and take great delight in investigating all the food and rubbish bags hung around the kitchen. A careful check for snakes and keeping all the doors closed during the stay is highly recommended. A rainwater tank next to the old shearer's quarters provides a small but welcome supply of fresh water. The truck and car graveyard behind the homestead provides for some interesting fossicking and photography for those so inclined (Keir!). A sadder reminder of the past is the large sinkhole located 500m NNE of the homestead which was used as a rubbish pit. A significant task to clean this up should



Lake 3 Perfections

one day be undertaken.

Finally, To Dive!

With all the equipment now at the third lake, it took a mere hour to travel there from the cave's entrance. Coming out and up the entrance slope takes a little longer! Keir and Phil decided it would be a good idea to load the canoe up with all the gear and paddle it the 300m through to the sump at the end of the third lake with the low roof section (30-50cm high) in the middle. Hindsight is a beautiful thing and so is the video footage the author took of the mighty struggle that took place to squeeze the fully inflated canoe and its overloaded contents under the roof covered with dangling rock projections! Success at last - the final 60m² dome room was crossed and dive gear donned for descent through the sump and restriction to finally see the rockpile and what all this fuss was for! Due to the amount of equipment, several dive trips were made through the sump to ferry all the climbing gear and ropes through and up into the terminal lake.

While Keir dived back and forth to bring all the gear through, Paul and Phil took out the 20.4V cordless hammer drills brought specifically for this trip and drilled the six inch long, 3/8 inch diameter rock bolt holes into the soft, waterlogged limestone. The bolts were placed 1.5m above the water and served as anchor points

from which the climbers would be belayed. Two of the bolts refused to tighten, the shafts simply spinning in the soft, chalky, mud-like rock. Once two bolts were successfully secured and all the gear had been ferried through to the terminal lake, the divers backtracked, leaving all the dive gear in the canoe above the sump and swam out of the cave. After assisting with the porting of dive gear and canoes to the end of the cave, Kevin spent most of the day exercising his new camera, the Canon EOS 20D, from which the most stunning images in the cave were captured. Combined with his other new toy, a 9W LED 'lightgun', Kevin used a tripod to light-paint the cave during long digital exposures. Some of the results are seen with this article.

The Climb Begins

Wednesday loomed large as the climbing and rockbolting began in earnest, however it proved to be a further five days before we reached the top of the climb. Once securely bolted into the 6m ledge achieved on the previous trip, a careful assessment was made of which was the best route to bolt up the rockface. A narrow vertical gully straight up the middle of the rockpile was chosen and on the first day, about 10m of height was attained. The method of climbing was necessarily laborious due to the risks associated with the soft, rotten rock being climbed. The double climbing rope was secured into the harness and each line travelled through a separate run of bolted hangers and quickdraws down to the belayer hanging off the anchors at the base of the



Phil's gashed phoot!

pitch (and off to the side of the rockfall zone!). Slack was taken up on one lead rope whilst the second was loosened to clip into the next point up, thus providing uninterrupted support for the climber. Etriers are a short set of footloops you can hang from a fixed point and they are used to gain a height advantage from each anchor point to drill the next hole up. This process proved to be extremely effective as two minor slips by different climbers that occurred were securely held by the belayer with the only damage being one bent masonry drill bit!

Accident

At the end of the first day of climbing, whilst changing back into dive gear, Phil Maynard cut his foot open on a sharp limestone projection. After painting the white rocks red, Phil nursed his foot until it could be kept dry and the wound dressed. By the following morning it was clear that the wound needed stitches so the nurses station at Eucla was telephoned and the team went to Eucla for a rest and 'repair' day! Little Sahara, the old jetty and the old telegraph station half buried in dunes are attractions that make Eucla a beautiful and fascinating place to visit. The next day Keir and Paul continued bolting a further 10m up the gully whilst Kevin and Phil took photos and rested.

The trip from the cave's entrance to and from the climbing point each day was quite a physical effort. The inward journey involved two hours of steep entrance descent, paddling in canoes across Shit Lake,

Phil, Keir, Paul and Kevin.





Eucla dunes.

wading or canoeing the length of the second lake, climbing over the rockpile, swimming the length of the third lake and finally donning cave diving gear to traverse the sump and restriction to finally surface in the terminal lake. On Saturday, Phil's foot was well enough for him to continue climbing.

Phil prusiked 20m up to the last bolt point Keir had placed the day before, stood high in the etriers and started drilling the next hole up the slope. A shower of small rocks as well as loose sand and dust rained down into the water below as Phil moved slowly up the rockface. Three hours later, Phil secured his position just a few metres from the top to abseil back down to have lunch and a break from the physically demanding work. After lunch Phil placed another six anchor points and had to place the last bolt before he could safely go off rope and explore the dome roof chamber. It was late in the day, the last bolt refused to tighten in the soft rock and Phil was too exhausted to drill another hole. The team exited, taking empty scuba cylinders for refilling and tired bodies that needed refuelling and recharging.

Summit

On Sunday the last bolt was secured and Phil finally got to explore the chamber 30m straight up above the

surface. Years of pondering had come to this – did Koonalda continue into caverns measureless to man? The words that came from high above provided the answer: "Sorry Paul, it doesn't go! The rocks meet the roof, there's definitely no way on."

It took two hours to de-rig the pitch, remove all the hangers and rockbolts. After packing everything into waterproof housings, it was all dived back through the sump and repositioned on the entrance side of the rockpile. The next day was spent removing all equipment from the cave and included a photo session using a 250W video light to illuminate the cave passage above the second lake whilst the canoe ferried equipment back and forth.

With everything removed from the cave and packed back into our vehicles for the long trips home, Koonalda Homestead was left just as we found it. It was likely we wouldn't return to this cave again, particularly following the disappointment we had just striven so hard to attain! Although Koonalda didn't 'go off', we did have a great time together out in the bush and some adventures in between. There is still plenty of exploration to do in the Nullarbor caves – Cocklebidy, Mullamullang and the extensive Roe Plain systems, but probably not in Koonalda Cave!