

Large sections of the cave are suited to 'side-mount' diving. Wearing the cylinders on his side gives John Dalla-Zuanna (JDZ) a much more streamlined approach to 'flatteners' within the cave



small

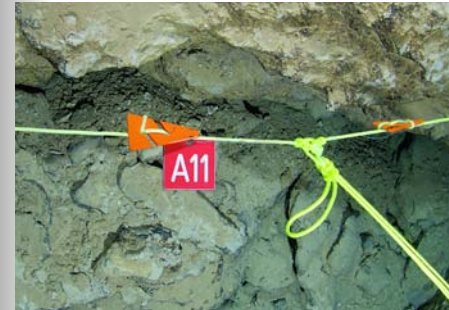
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+ UNDER AN UNASSUMING COW Paddock NEAR MT GAMBIER IN SOUTH AUSTRALIA, DIVERS GENTLY FIN THEIR WAY THROUGH LITERALLY KILOMETRES OF SPECTACULAR LIMESTONE PASSAGeways. MASSIVE WHITE CHAMBERS CAPPED WITH MERCURIAL AIR POCKETS REFLECT THEIR POWERFUL LIGHTS. BROAD STRETCHES OF ANCIENT CLAY BLOCKS FROZEN IN TIME FROM AN ANCIENT AND ARID ERA. ENDLESS RAILWAY TUNNELS STRETCHING BEYOND DIVERS' VISION, PUSHING THEM TO EXPLORE AND OBSERVE THIS NATURAL WONDER...

The Gambier Karst in South Australia's southeast is home to over 500 numbered limestone features. From dry dolines to deep water-filled sinkholes, caverns filled with dripping speleothems and the jewel in the cave divers' crown – Tank Cave (CEGSA number 5L230). To relate its history is to tell the story of the

pioneers of the Cave Divers Association of Australia – the CDAA. Names like Horne, Nielsen, Prust and Brown are synonymous with the early exploration and discoveries in this incredible site. Though rumours of a cave circulated for many years before (see the picture of CDAA member 001 Dave Warnes by the cave in the

1960s!), it wasn't until 9 August 1983 that the first well documented dive was made by Peter Horne and Mark Nielsen. After squeezing through a tiny aperture next to the old water tank which covered the cave, the two divers entered the cave under cover of darkness. After negotiating a tight and silty entrance, they fell into a clear

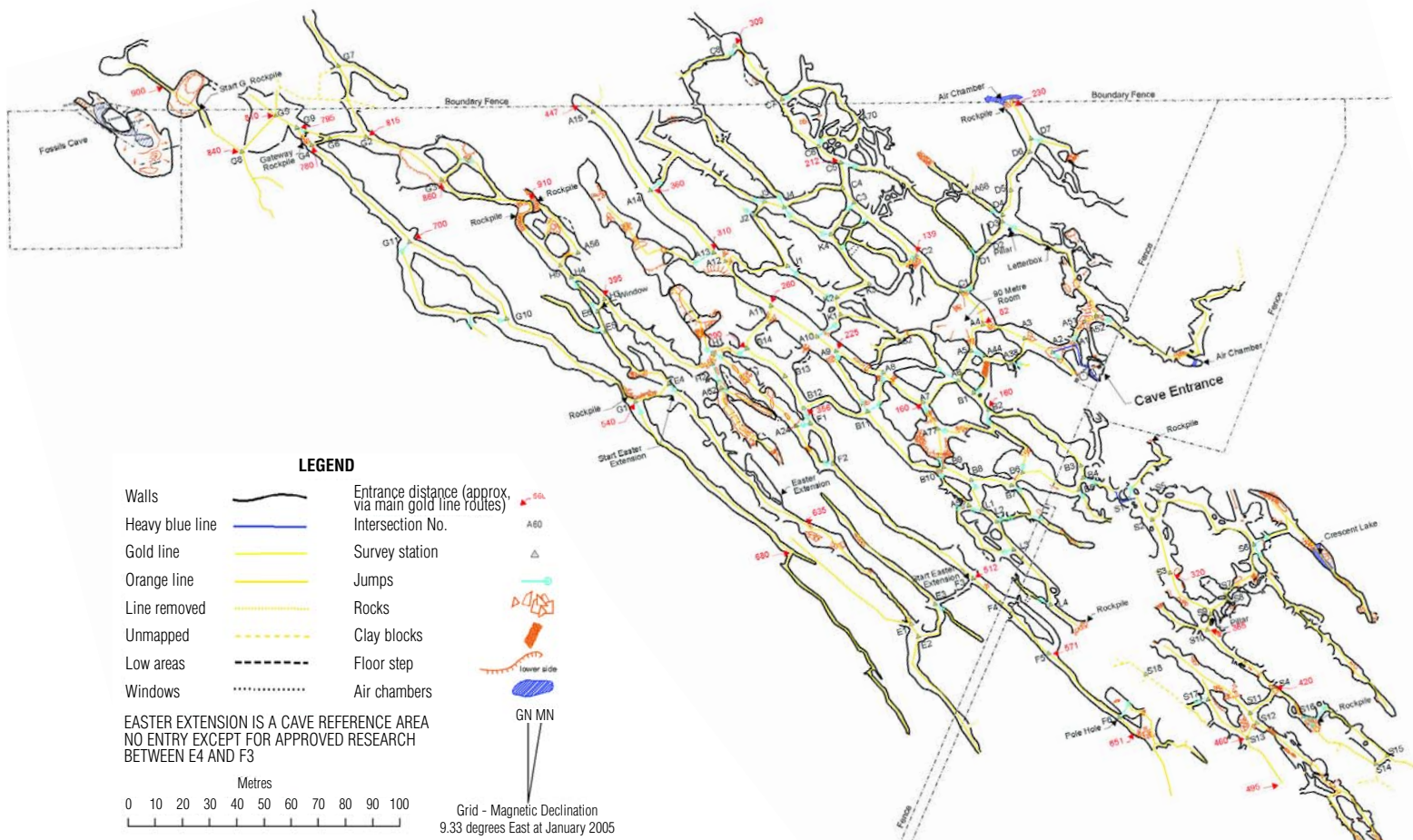


1	2
3	4

- 1 The cave is well marked with a numbering system, directional arrows and distance markers
- 2 A field of clay blocks from a far drier time
- 3 Local cave diver Grant Pearce makes a left hand turn on the 'Shortcut' at A38
- 4 The milky water in the entrance pool hides the tight squeeze that must be navigated into the first passageway

beginnings

: RICHARD HARRIS



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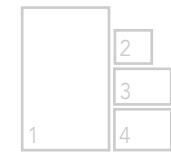


**TANK CAVE 5L230
MT GAMBIER S.A.**
29th January 2005

Survey Details
Surveyed by the CDAA Tank Cave Mapping Team
ASF Grade 3.3

h2o below°

Acknowledgements: Thanks to the CDAA www.cavedivers.com.au for permission to reproduce the map of Tank Cave, and to Peter Horne, Dave Warnes, John Dalla-Zuanna, Chris Brown and Ken Smith for much of the historical information and archival images in this article.



- 1 Geof Newman & John Hansen 1984 (Mark Nielsen)
- 2 Ken Smith with his 'Pingers' (John Winkler)
- 3 John Winkler & surveyor Mark Oldfield
- 4 A young Dave Warnes 1960 (Michael Turner)

water passage which they followed for 70 metres to a rock fall. At that point it was clear there were further leads to pursue, but it was time to turn the dive as gas was being rapidly depleted from their single cylinders. Unfortunately their exit from the cave in zero visibility was 'unsettling' to say the least, with dense silt and a nasty line trap giving them cause to leave the cave well alone for some time!

Nearly a year passed before Mark Nielsen (with John Hanson and Geof Newman) returned to the cave to explore and documented another 100 metres of passageway. Their dives reached just past



JDZ in the doorway to the new gearing up shed

the spectacular 90 metres room but, as so many caves were opening up in the area at that time, the cave (now named Tank Cave by Peter Horne) was 'put aside' whilst other projects were pursued.

Divers Phil Prust and Chris Brown picked up the ball where the others left off. After one aborted attempt to dive the cave in 1984 with Paul Arbon, Phil, Chris and their small team finally got some serious exploration and mapping done over the course of numerous weekends in 1989. This produced a 'stick map' showing ~3.9 kilometres of interconnected passage. On one weekend alone, over 1,000 metres of 'virgin' cave was



The tiny entrance to an extraordinary cave!



Simply beautiful... Tank Cave at its best

discovered and laid with line! Like Peter Horne and Mark Nielsen before them, Phil and Chris had some unpleasant moments exiting the tight and silty early section, and they spent a lot of time enlarging and clearing out this entrance. Subsequently (and with the involvement of many other divers) began the period of exploration which to the current day has unearthed almost eight kilometres of phreatic, joint controlled passageway!

Later, John Winkler and a mapping team which included Ken Smith and John Dalla-Zuanna played a major role in literally putting Tank Cave on the map thanks to the use of differential GPS and radiolocation devices. But the original maps made by the earlier teams

The mega fauna skull found in Tank Cave can be seen at the Lady Nelson Visitors Center in Mt Gambier. It is thought to be *Simosthenurus occidentalis*, an extinct short-faced kangaroo living between 50,000 and 500,000 years ago.

were extraordinarily accurate. A visually striking map has more recently been produced by the CDAA's mapping director Stuart McGregor. Now nearly 25 years since the first survey dive, the cave still offers virgin passageway for those prepared to push its physical boundaries.

Like most water filled caves in the lower southeast, access to Tank Cave is controlled by the CDAA, who leases the cave from the landowner. Only divers who've passed the CDAA's highest cave diving certification are permitted access to the cave, and only then under a guide system which allows a gradual process of familiarisation. A weekend at 'Tank' usually involves four dives in which to explore a selection of the myriad tunnels. The cave is so large that 12 divers can comfortably share the site and rarely see each other underwater! A system of permanent lines has been laid with numbered tags, distances from the entrance and directional arrows all assisting navigation in this potentially confusing system. Despite this organised

layout, divers take great care to plan their route and gas supplies; as the consequences of disorientation in a flooded cave are as clear as the waters in which the divers swim. It's a credit to the training and procedures in place that there's never been a serious accident within Tank.

Tank Cave caters for all styles of diving. Back-mounted twins are often used but sidemount diving seems to rule in a cave where low flat areas are common. It's a great place to look at other divers' gear configurations and learn a trick or two for one's own diving. With most tunnels having a depth of less than 15 metres, there are very few areas that can't be visited with twin 100cuft cylinders and a single extra stage tank. The use of nitrox is common and rebreathers are gradually becoming more accepted although the shallow depths make this cave less than perfect for CCRs. Water temperatures of approximately 15 degrees C year round make drysuits essential for all but the hardest divers.



Ken Smith with the radio-direction locating 'Pingers' used to map the cave

THE ROAD TO TANK CAVE

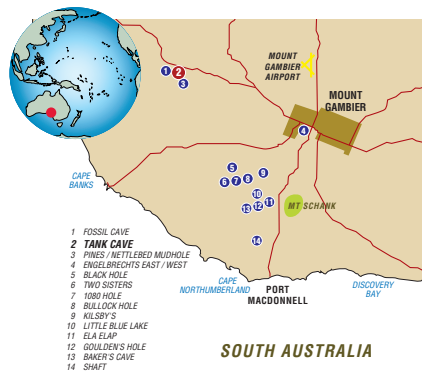
Access to Tank Cave requires the completion of the following CDAA training programs: "Deep Cavern" followed by "Cave" then "Penetration" courses. The "Penetration" diver must then dive in Penetration Rated sites for 12 months before applying for access to Tank Cave. The first two Tank Cave dives must be done under the supervision of a guide. Thereafter divers follow a familiarisation schedule involving approximately 25 dives before they may freely plan dives to the furthest reaches of the cave. As all the cave is equally spectacular, no-one seems to mind this rather rigorous schedule which is designed to protect both the divers and the cave. One large section of the Cave has been closed to divers and designated a "reference" section for scientific purposes.

Suitably qualified visiting cave divers may apply to the Standards Director of the CDAA for a Special Visitors Permit for this or any other site under CDAA control.

tank cave

Almost every type of limestone formation common to Mt Gambier's caves can be found in Tank. Deep white silt and brown pebbles, the fabulous clay blocks and hundreds of sea urchin fossils are a constant reminder of the origins of the cave. The recent discovery of an ancient mega fauna skull also carries a message for the ongoing conservation of this and other similar sites. Rare syncarids (small centipede-like invertebrates) are also seen.

It would take several years of weekend visits to Tank Cave to see the entire site, but for many cave divers this is a worthy goal. Every turn and every tunnel seems to hold something new and no two sections look the same. For many Australian cave divers, Tank is the golden fleece in their diving careers. A natural wonder that's still revealing its secrets after such small beginnings...



AQUACULTURE AND MARITIME AFFILIATE

The University of Tasmania's School of Aquaculture has officially become part of the Australian Maritime College.

The AMC integrated into the University on 1 January 2008.

The new-look AMC will be structured into three centres: the National Centre for Engineering and Hydrodynamics, the National Centre for Ports and Shipping and the National Centre for Marine Conservation and Resource Sustainability.

The Examiner, 2 February 2008

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