Tea Tree Gully Gem & Mineral Club Inc. (TTGGMC)
Clubrooms: Old Tea Tree Gully School, Dowding Terrace, Tea Tree Gully, SA 5091.
Postal Address: Po Box 40, St Agnes, SA 5097.
President: Ian Everard. H: 8251 1830 M: 0417 859 443 Email: ieverard@bigpond.net.au
Secretary: Claudia Gill. M: 0419 841 473 Email: cjjrgill@adam.com.au
Treasurer: Russell Fischer. Email: rfischer@bigpond.net.au

March Edition 2017

"Rockzette"

Tea Tree Gully Gem & Mineral Club News

President's Report

Hi All,
The school hall has been booked for our Exhibition, and the dealers have been contacted.

NOTE: April's speaker is Don McColl… talking on Mt Isa.

Cheers, Ian.

Diary Dates/Notices

2017

Sat 11th – Sun 12th March 2017
GEMKHANA – Victoria – Gem and Mineral Show.
Time: 9.30am to 4.30pm. Venue: Quest Shepparton Racing Complex, Goulburn Valley Highway, Kialla, VIC. (7km south of Shepparton, VIC.)

Sat 18th – Sun 19th March 2017
Canberra Lapidary Club Rock Swap.
Time: 8.30am to 5.00pm. Venue: Exhibition Park in Canberra – Wagtail Way (Camping Ground) – outdoor event Cost: Free Details: Fossickers & dealers. crystals, minerals, rough & cut gemstones, opals, fossils, jewellery. Food available. Sieve for sapphires http://www.canberralapidary.org.au/

Fri 14th – Mon 17th April 2017
GEMBOREE 2017.
The 53rd National Gem & Mineral Show, GEMBOREE 2017 will be held in Lithgow, NSW. For Newsletters and full details visit http://aflaca.org.au/gemboree/

Fri 5th – Sun 7th May 2017
Murraylands Gem and Mineral Club Crystal and Craft Fair 'Rockarama',
Palmer Oval, Palmers, SA. MGMC Website

Sat 17th – Sun 18th June 2017
Tea Tree Gully Gem and Mineral Club Show. Tea Tree Gully Primary School Gymnasium, Corner of Memorial Drive and Neale Street, Tea Tree Gully.

Club Activities

Meetings
Club meetings are held on the 1st Thursday of each month except January.
Committee meetings start at 7 pm.
General meetings - arrive at 7.30 pm for 8 pm start.

Library
Librarian - Augie Gray
There is a 2-month limit on borrowed items. When borrowing from the lending library, fill out the card at the back of the item, then place the card in the box on the shelf. When returning items, fill in the return date on the card, then place the card at the back of the item.

Tuesday Faceting/Cabbing
Tuesdays - 10 am to 2 pm.
All are welcome.
Contact Doug Walker (08 7120 2221) if you would like to learn faceting.

Wednesday Silversmithing
Wednesdays - 7 pm to 9 pm.
All are welcome.
Contact Augie Gray (08 8265 4815 / 0433 571 887) if you would like to learn silversmithing.

Thursday Cabbing
Thursdays - 10 am to 2 pm.
All are welcome.
Contact Augie Gray (08 8265 4815 / 0433 571 887) if you would like to learn cabbing.

Friday Silversmithing
Fridays - 9 am to 12 md.
All are welcome.
Contact John Hill if you would like to learn silversmithing on a Friday.

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Courses & Fees.

Faceting/Cabbing
Course 10 weeks x 2 hours ***Cost $20.00***.
Use of equipment ***$1.00 per hour***.

Silversmithing
Course 5 weeks x 2 hours ***Cost $20.00***.
Use of equipment ***$1.00 per hour***.

While some consumable materials are supplied by the club, trainees must supply any additional requirements.

Trainees who use the club equipment (for example, magnifying head pieces, faceting equipment, tools, etc.) must return them to the workshop after usage. Trainees are also encouraged to purchase and use their own equipment.

In the interest of providing a safe working environment, it is necessary to ensure individuals using the workshops follow the rules set out in *Policy No. 1 - 20/11/2006*.

It is necessary that *Health and Safety* regulations are adhered to at all times.

Trainees must ensure:
- that all work stations are left in a clean and tidy state;
- that all rubbish is removed and placed in the appropriate bin;
- and where applicable, machines are cleaned and oiled.

NOTE: The Tea Tree Gully Gem & Mineral Club Inc. will not be held responsible or liable for any person injured while using the club machinery or equipment.

Club Subscriptions
$25.00 Family.
$20.00 Family/Pensioner.
$15.00 Single.
$12.50 Single/Pensioner.
$10.00 Joining Fee.

In This Edition

Augie's March Mineral Selections

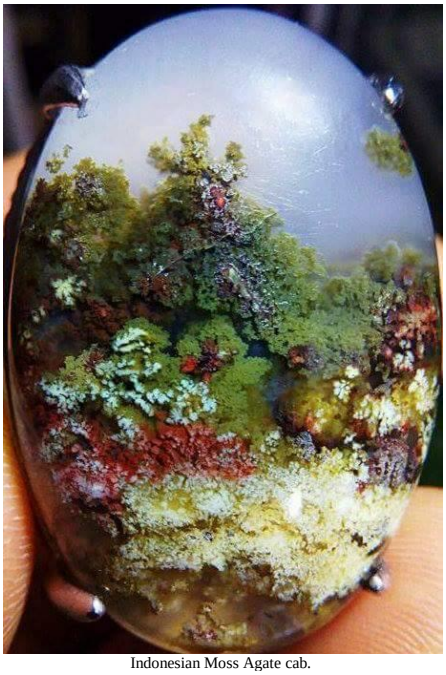
(Showcasing minerals from around the world.)

Amethyst scepter group - Madras, India.

Amethyst triple stalactite - Santinas Quarry, Artigas, Uruguay.

An extremely rare form of W.A. Variscite.

Petrified Forest, Arizona.

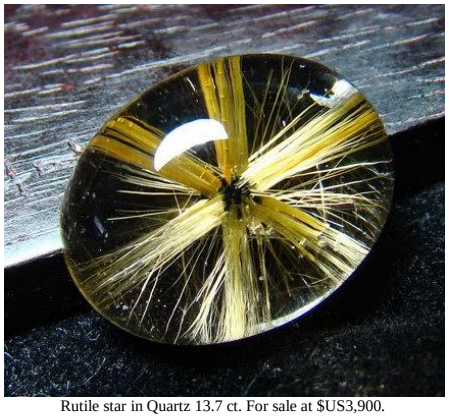


Indonesian Moss Agate cab.

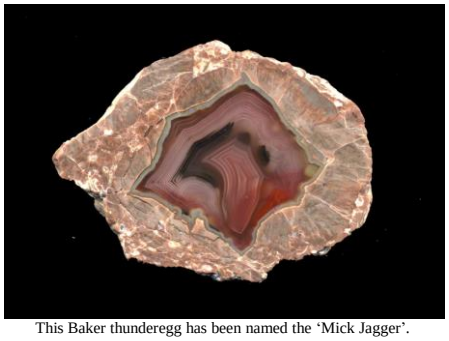
Prase Quartz also known as Serifos Green Quartz from Serifos Island, Greece.

Pyrite Ammonite cluster.

Rhodochrosite - Kalahari Manganese Field, Northern Cape Province, South Africa.

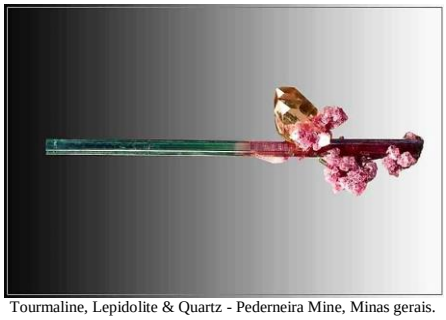


Rutile star in Quartz 13.7 ct. For sale at $US3,900.



This Baker thunderegg has been named the 'Mick Jagger'.

Tourmaline - Minas Gerais.



Tourmaline, Lepidolite & Quartz - Pederneira Mine, Minas gerais.

Augie's Monthly Agate Gallery

(Showcasing agates from around the world.)

Agate 13, Agate Creek, Queensland, Australia.

Agate 22, Agate Creek, Queensland, Australia.

Agate 26, Agate Creek, Queensland, Australia.

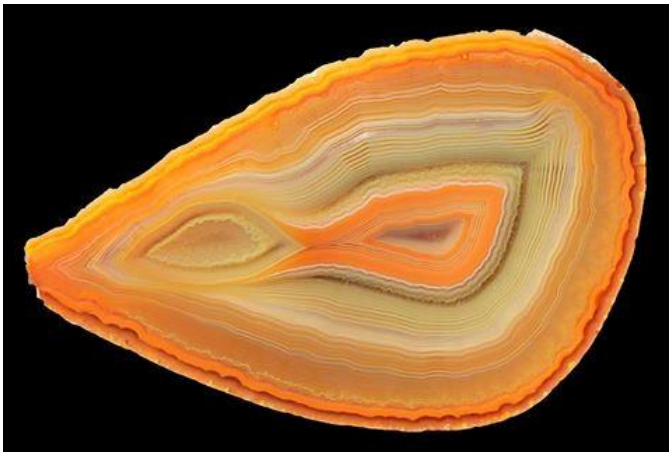
Agate 34, Agate Creek, Queensland, Australia.

Agate 37, Agate Creek, Queensland, Australia.

Agate 51, Agate Creek, Queensland, Australia.

Augie's Monthly Agate Gallery

(Showcasing agates from around the world.)



Agate 54, Agate Creek, Queensland, Australia.

Agate 74, Agate Creek, Queensland, Australia.

Agate 61, Agate Creek, Queensland, Australia.

Agate 111, Agate Creek, Queensland, Australia.

Agate 115, Agate Creek, Queensland, Australia.

Agate 55, Agate Creek, Queensland, Australia.

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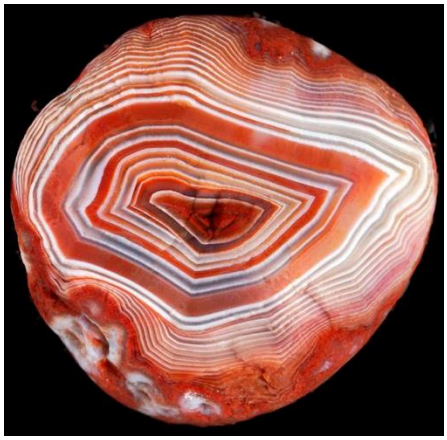
Article Details: *Accessed via* ***Facebook*** *and* ***Geology IN*** *(http://www.geologyin.com/).*
The original article was written by Karen Brzys, Gitche Gumee Museum (http://www.agatelady.com/)

How Do Agates Form?



Lake Superior agate.

What is an Agate

Agates are semi-precious gemstones that are a variegated form of chalcedony (pronounced kal-sed'-nee) which is silicon dioxide in the form of microscopic fibrous quartz crystals. Agates naturally develop when an empty pocket inside a host rock fills in molecule-by-molecule, layer-by-layer as these microcrystals self-organise to form concentric bands or other patterns.

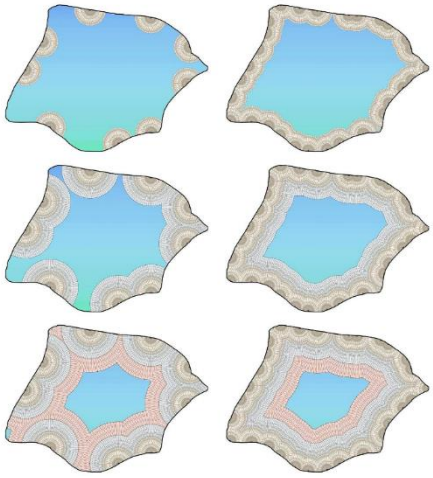
The colours and arrangement of the microcrystals are influenced by changes in pressure, temperature, and mineral content that occur during the formation process. Unlike other gemstones, each agate is unique. Even slabs cut from the same specimen will vary in colour and design.

Fairburn Agate, credit: Tom 'Captain Tenneal' Shearer.

Botswana agate.

How Do Agates Form?

Agates develop as secondary deposits in hollow cavities, called vesicles. Although they can form in all types of host rock, most of the world's agates developed in ancient volcanic lava. When the continents were first forming, layers of molten lava pushed toward the earth's surface through rift zone cracks, volcanoes, and other geologic events. Within the lava, there were pockets of trapped gases. Later these gases escaped through cracks that formed as the igneous rock cooled and hardened, leaving hollow cavities. Other cracks and seams also formed when adjoining sections of lava cooled at different rates.



If the nucleation points are distributed along the wall of a cavity, the typical wall-lining banding develops. Depending on the density of the initial nucleation points on the wall, the banding pattern will look more jagged like in so called "fortification agates" (left column in Fig.) or will follow the outline of the cavity more uniformly (right column in fig.). I have marked the different developmental stages of the spherulites (small rounded bodies which commonly occur in vitreous igneous rocks) with different colours to emphasize the geometry of the resulting banding.

These empty cavities and seams filled with fluids rich in dissolved and suspended quartz molecules (silica), as well as other mineral impurities. When the silica concentration became super saturated, it developed a gelatin-like consistency either throughout the pocket or in a layer that served as the active crystallisation front. Over time, the silica molecules began to form miniature fibrous microcrystals that attached to the sides of the cavity or seam.

During the filling-in process other mineral impurities collected at the inside of the chalcedony silica band, forming intervening, and often contrasting bands. This pattern repeated until the entire vesicle was filled in, or until all the silica rich solution was used up.

If there was the proper balance of silica and mineral impurities, then the entire cavity filled with alternating bands. If there was an insufficient quantity of mineral impurity or if the pressures and temperatures changed, the cavity completed filling in with macrocrystalline quartz, or another form of silica.

Thin slice of agate.

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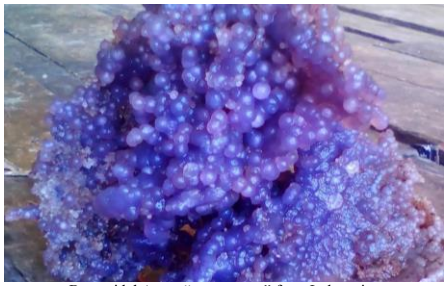
Article Details: *Accessed from Wikipedia, the free encyclopedia* - https://en.wikipedia.org/wiki/Agate.

Types of Agate

Banded agate (agate-like onyx); the specimen is 2.5 cm wide.

Agate / 'aeget/ is a cryptocrystalline variety of silica, chiefly chalcedony, characterised by its fineness of grain and brightness of colour. Although agates may be found in various kinds of rock, they are classically associated with volcanic rocks and can be common in certain metamorphic rocks.

Copper Replacement Agate cabochon. Credit: Sukow's Superiors.



Botryoidal Agate "grape agate" from Indonesia.

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Article Details: *Accessed from Wikipedia, the free encyclopedia* - https://en.wikipedia.org/wiki/Agate.

Types of Agate *continued…*

Types of Agate

A Mexican agate, showing only a single eye, has received the name of *cyclops agate*. Included matter of a green, golden, red, black or other colour or combinations embedded in the chalcedony and disposed in filaments and other forms suggestive of vegetable growth, gives rise to dendritic or moss agate. ***Dendritic agates*** have fern like patterns in them formed due to the presence of manganese and iron oxides. Other types of included matter deposited during agate-building include sagenitic growths (radial mineral crystals) and chunks of entrapped detritus (such as sand, ash, or mud). Occasionally agate fills a void left by decomposed vegetative material such as a tree limb or root and is called limb cast agate due to its appearance. Enhydro agate contains tiny inclusions of water, sometimes with air bubbles.

Dendritic agate.

Turritella agate is formed from silicified fossil *Elimia tenera* (erroneously considered *Turritella*) shells. *E. tenera* are spiral freshwater gastropods having elongated, spiral shells composed of many whorls. Similarly, coral, petrified wood and other organic remains or porous rocks can also become agatized. Agatized coral is often referred to as Petoskey stone or agate.

Turritella agate.

Greek agate is a name given to pale white to tan coloured agate found in Sicily back to 400 BC. The Greeks used it for making jewellery and beads. Even though the stone had been around centuries and was known to both the Sumerians and the Egyptians, both used the gem for decoration and for playing important parts in their religious ceremonies. Any agate of this colour from Sicily, once an ancient Greek colony, is called Greek agate.

Greek banded agate bowl.

Brazilian agate is found as sizable geodes of layered nodules. These occur in brownish tones interlayered with white and grey. Quartz formed within these nodules, creating a striking specimen when cut opposite the layered growth axis. It is often dyed in various colours for ornamental purposes.

Brazilian agate.

Certain stones, when examined in thin sections with transmitted light, show a diffraction spectrum due to the extreme delicacy of the successive bands, whence they are termed ***rainbow agates***. Also, called ***Iris*** Agate. Often agate coexists with layers or masses of opal, jasper, or crystalline quartz due to ambient variations during the formation process.

Rainbow or Iris agate.

Lace agate is a variety that exhibits a lace-like pattern with forms such as eyes, swirls, bands, or zigzags (if these predominate, it is called ***lattice agate***). ***Crazy lace agate***, found in Mexico, is often brightly coloured and complexly patterned. ***Blue lace agate*** is found in Africa and is especially hard.

Lace Agate.

Chopstick Lattice Agate.

Crazy Lace Agate.

Blue Lace Agate.

Polyhedroid agate is agate which has grown in a flat-sided shape like a polyhedron. When sliced, it often shows a characteristic layering of concentric polygons. Polyhedroid agate is thought to be found only in Paraiba State, Brazil. It has been suggested that growth is not crystallographically controlled but is due to the filling-in of spaces between pre-existing crystals which have since dissolved. *Continued next page…*

Article Details: *Accessed from Wikipedia, the free encyclopedia -* https://en.wikipedia.org/wiki/Agate.

Types of Agate *continued…*

Polyhedroid Agate, Brazil.

Other forms of agate include ***Holley blue agate*** (also spelled "Holly blue agate"), a rare dark blue ribbon agate only found near Holley, Oregon; ***Lake Superior agate***; ***Carnelian agate*** (has reddish hues); ***Botswana agate***; ***Plume agate***; ***Condor agate***, ***Tube agate*** (with visible flow channels or pinhole-sized "tubes"); ***fortification agate*** (with contrasting concentric banding reminiscent of defensive ditches and walls around ancient forts); ***Fire agate*** (showing internal flash or "fire", the result of a layer of clear agate over a layer of hydrothermally deposited hematite); and ***Patuxent River stone***, a red and yellow form of agate only found in Maryland, where it is the state gem.

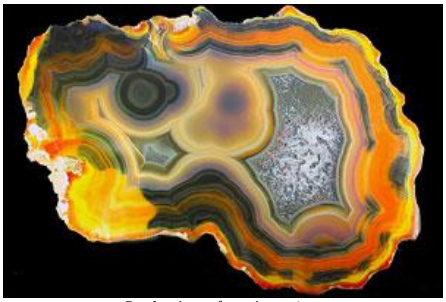
Holley Blue Agate.

Lake Superior Agate.

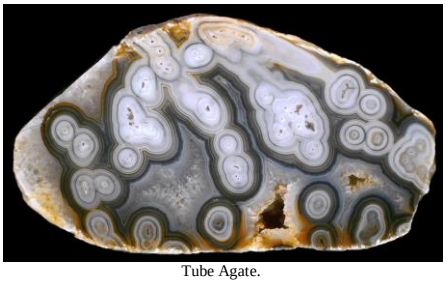
Oregon Carnelian Agate.

Oregon Carnelian Agate.

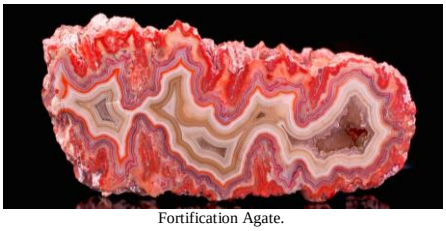
Plume Agate.



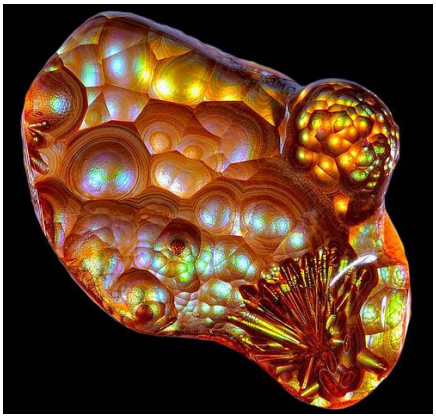
Condor Agate from Argentina.



Tube Agate.



Fortification Agate.



Fire Agate.

Patuxent River Stone (red and yellow agate), Maryland, USA.

Uses of Agate in Industry and Art

A 6.8 kg tumbler full of glistening tumble-polished agate & jasper.

The "Rubens Vase" (Byzantine Empire). Carved in high relief from a single piece of agate, this extraordinary vase was most likely created in an imperial workshop for a Byzantine emperor.

The *Holy Grail of Valencia*, with the cup made from a piece of agate carved during the time of Christ.

Continued next page…

Article Details: *Accessed from Wikipedia, the free encyclopedia -* https://en.wikipedia.org/wiki/Agate.

Uses of Agate in Industry & Art

continued…

Industrial uses of agate exploit its hardness, ability to retain a highly-polished surface finish and resistance to chemical attack. It has traditionally been used to make knife-edge bearings for laboratory balances and precision pendulums, and sometimes to make mortars and pestles to crush and mix chemicals. It has also been used for centuries for leather burnishing tools.

Agate was traditionally used to make knife-edge bearings for laboratory balances and precision pendulums.

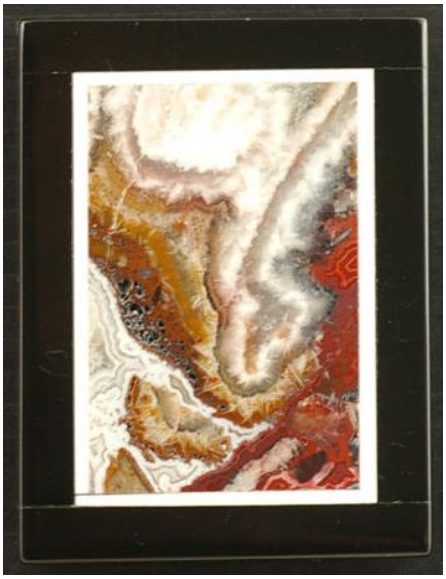
Agate knife burnisher used for polishing gold and silver.

The decorative arts use it to make ornaments such as pins, brooches, or other types of jewellery, paper knives, inkstands, marbles, and seals. Agate is also still used today for decorative displays, cabochons, beads, carvings, and Intarsia art as well as face-polished and tumble-polished specimens of varying size and origin. Idar-Oberstein was one of the centers which made use of agate on an industrial scale. Where in the beginning locally found, agates were used to make all types of objects for the European market, this became a globalized business around the turn of the 20th century: Idar-Oberstein imported large quantities of agate from Brazil, as ship's ballast. Making use of a variety of proprietary chemical processes, they produced coloured beads that were sold around the globe. Agates have long been used in arts and crafts.

Large Victorian Stirling silver Scottish Agate Brooch.

Victorian Scottish Agate Celtic Pin/Pendant.

Art deco red banded agate desktop set.



Mexican Crazy Lace Agate Intarsia Pendant.

Agate marbles.

Agate beads of Idar Oberstein.

Antique early Victorian Gothic banded agate gilt necklace with pendant cross.

The sanctuary of a Presbyterian church in Yachats, Oregon, has six windows with panes made of agates collected from the local beaches.

Close-up view of the beach agates suspended in resin.

Health Impact of Agate.

Respiratory diseases such as silicosis and higher incidence of tuberculosis among workers involved in the agate industry has been reported from India and China.

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Contributed by Mel…

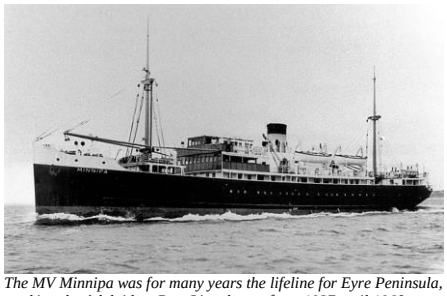
Tales from a former SAR Train Driver.

"His Name Was Mud"

written by Norm Hann 1999.

Fifty years ago, Len met this bloke at Lincoln. He could remember it like yesterday; the clear blue water, keen wind, glaring sunshine, and deep dark shadows.

The railways had just transferred Lennie to the West Coast for his first driving job. It was halfway through a new morning, at a new place, with new faces and a new way of life about to begin. The overnight crossing had been made on the old coastal trading vessel, which in those days serviced the West Coast from Adelaide and was the easiest link with the mainland. The old MV Minnipa made the trip fair weather or foul, with a regularity the locals could rely on. She was part of the harbour, always coming and going. People, life, and excitement were an integral part of this little old lady of the sea.



The MV Minnipa was for many years the lifeline for Eyre Peninsula, working the Adelaide – Port Lincoln run from 1927 until 1960.

Lennie stood by the ship's rail, as they maneuvered her into the jetty, where, with the ease of long practice they made her fast to her moorings. With a last churn of the water her motors were silenced. He could hear the slaps of disturbed water from the ship's sides, as it splashed against the jetty pylons.

The jetty came out from the railway yards and two or three railway lines ran the full length of the jetty.

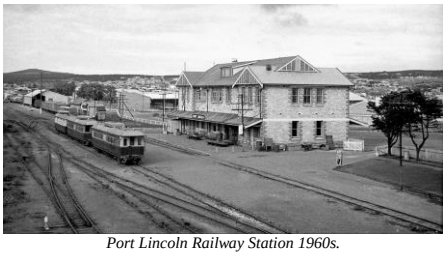
A blackened old steam locomotive covered in soot and grime stood on one of the tracks. A wisp of smoke from the funnel drifted out across the water, a hiss of steam came from some leakage around her pistons. From her funnel came the pant, pant, pant of the compressor air pump. This ancient old steam engine was coupled to small wooden trucks waiting to be loaded with cargo and goods.

He was immediately impressed by how very small these locomotives were after working the broad-gauge Pacific and Mountain type locomotives in the mainland.

On seats, bracketed to the handrail on the outside of the locomotive's cab sat two fellows. One Len could see was the driver, the other, obviously, his fireman. He looked with interest at these two fellows as they would be his work mates. The engine driver said something to his mate, who turned to answer him. Lennie saw a young fellow, who looked as tough as a rodeo rider, tough and wiry with not an ounce of fat on him. He was laughing at something his mate had said. Len took a liking to him straight away.

Next morning, at the station master's office, he reported for duty advice. Len was taken on a tour of the shunting yards and loco sheds to familiarise himself with layout and locations where he would be working. He was also introduced to several chaps he would be working with, and met the superintendent, train controller, and roster man. Len felt quite relaxed among them. They seemed to be as good a bunch of fellows as you could wish to meet anywhere.

Before leaving the office, the roster man asked Len if there was anything he could do to make his job easier. Thankful that he had been given an opening to broach a subject which had been worrying him, Len replied, "There is one thing you could do. You know this is my first turn at driving. I have never worked narrow gauge and don't know your engines, nor your track over here. I've been told that there are a lot of young new Australian lads here as firemen who are unable to speak or understand much English. I've got nothing against them, but till I find my feet, please give me an Aussie mate."



Port Lincoln Railway Station 1960s.

Mudrock

After a couple of weeks shunting and learning roads, Len was rostered to work his first train on his own as a driver. He turned up to work with his tucker box on his shoulder, new watch in his pocket and a brand-new time table book. Proud, keen, and full of confidence, in that order, he punched the time clock and located the engine working the job, a powerful T-class locomotive. The engine under steam was standing at rest. He wondered how they'd perform together, and hoped he would manage the job without giving his fireman a hard time.

The fireman was using the fire irons tending the fire, preparing the engine for traffic.

When Len climbed the steps onto the footplate to deposit his tucker box in the rack, his mate turned from the fire box, straightened up, gave a good-natured grin, and said, "Howdy, the boys call me Mudrock."

Amazingly, it was the bloke he'd seen on the shunt engine when the ship had berthed. What good luck!

In traffic, with the engine coupled to the train, and the examiner finished, the guard was about to give right away, when Mudrock bent down and picked up his shovel. With the dexterity only gained with much experience he shoveled the coal from the tender into the fire box. He was good to watch. Two shovel full of coal splayed along each side, two in the back and with a deft turn of his wrist deposited one right under the firebox door. Then on with the injector putting fresh water into the boiler, firebox door still partly open to dispel the black smoke.

Mudrock looked towards the brake van and yelled, "right o' way", then turned and kicked the door shut. He reached up, pulled the whistle cord, and blew a short blast. Len released the engine brake and simultaneously cracked the throttle, 'til, with a hiss of steam from open cylinder cocks the locomotive moved slowly forward, taking up the slack in the couplings until the train was moving.

Mudrock relaxed, second right from the guard. His mate closed the cylinder cocks, wound up the reach rod, and opened the throttle almost full. With good sharp barks from the funnel the train quickly gained running speed. Mudrock placed another fire, they were on their way and the nervous tension released in Len's stomach.

SAR narrow gauge steam locomotive T-Class 185.

Even above the clickety clack of the wheels over the rail joints, or the surging momentum of connecting rods over her coupled wheels, the predominant sound was the side to side slap and bang of the coal tender, with an almost constant rattle and scrape of the flap on the foot plate. It was so very much louder than the muffled exhaust from her funnel or the soft running sing of the injector as it supplied water to the boiler. Everything was as it should be.

Mudrock glanced at the steam gauge mounted on the face plate of the boiler 180 lb. Spot on. Water level showing a good two thirds in the glass. *Continued next page…*

"His Name Was Mud" *Continued…*

His mate Lennie on the opposite side of the cab was observing the incline of the track ahead and wound the reversing gear forward about a turn and a quarter to lengthen the stroke. Mudrock felt the increased engine power and the exhaust bark from the funnel immediately much louder.

Mudrock, balancing to the buck and sway of the locomotive placed another fire. Finished, he returned the shovel to the shovel plate of the tender, placed his knee on the fireman's seat and protruded his head and shoulders out of the cab window for the breeze to cool the perspiration on his face. He glanced back along the freight, snaking its way through the curves and up the grade of five miles' bank. With the hills, on one side and the clear blue sea away and below the other, a good steaming locomotive and good grade of coal Mudrock was close to paradise as a fireman could wish to be.

Watching the track ahead and driving accordingly was easy for Lennie during daylight hours but, after dark how different it was. With the headlight beam, Len couldn't discern whether the gradient was up or down and he was in trouble 'til he caught on to Mudrock's method of firing. Whenever he saw Mudrock pick up his shovel and really get into it, he found invariably they were approaching an upgrade. Also, whenever Mudrock cracked the firebox door open, sat on his seat and stretched his feet onto the tray above the door he knew that they were to drift downhill or run into the next station, shunting finished and away again. The engine hauling the long freight barked its way through the gauges, its headlight folding back the blanket of the night as it wolfed its way relentlessly onwards, up and down the grades. Cresting yet another hill, the engine exhaust barked sharply as it emerged from the cutting onto an embankment.

Mudrock put down his shovel, swept the cab floor, partly opened the firebox door, turned on the automatic blower, sat on his seat, placed his feet on the tray, lay his head on his arm rest and to all intents and purposes looked as if he was going to have a darned good nap. Len who had been making good progress driving to Mudrock's firing method closed the throttle, wound down the reversing lever, and allowed the engine to drift. The train got slower and slower. He thought she'll pick up speed any minute now. Slower and slower he looked at Mudrock. Still dozing.

The train had almost stopped, when Mudrock lifted his head, gave a great laugh and almost choking said, "Now get stuck into it you bludger, you're right at the bottom of four-mile bank. I'll teach you to sweat off on my firin'." Slipping and sliding, working the sand lever with one hand on the throttle with the other for an hour and ten minutes, Lennie topped the climb. At the next station the guard, swinging his hurricane lantern walked up to the engine. He was a thin taciturn man with piercing blue eyes beneath bristly bushy brows, a long-hooked nose with thin lips beneath a full moustache.

Ganger had the reputation of being a sarcastic old so and so and when he spoke it was in a slow nasal drawl. "I have to report on the control phone here. The controller is bound to ask me the cause of the lost running time over the last section.", he drawled, "Knew something was wrong when you almost stopped at the bottom of the bank." Len went to reply when Mudrock interrupted him, "Tell him sheep on the track!", then he burst into laughter and went on to inform Ganger how he realized that Lennie was driving to the way he was firing, and had decided to even the score.

Ganger looked at him, shook his head and said, "One of these days Mud, your crazy sense of humour will backfire and you will come unstuck. Won't be so funny then, I tell you." He continued glancing at Lennie, and could tell that Len was not a bit impressed. "Anyway, given the circumstances, you did a good job to get here at all.", he concluded, "After I report, we have to place a sheep van for unloading and set up the empty wheat trucks for loading. We'll pick them up on the way home."

Shunting finished, they were on their way again; the ranges far behind them. They were now traversing mile after mile of flat sandy plains, covered with sparse spinifex grass and whip stick Mallee. It was late. The night was freezing cold. Patches of ground fog floated like smoke haze above the ground. The red glow from the fire-box door reflected from Len's face as he watched the track, visible in the headlight beam. Here the rails were curving away and losing themselves in the fog beyond the limit of the light's beam.

Looking back along the train he could see the marker lights and the glow from the chimney of the firepot in the old caboose brakevan. "Old Ganger Harris has gotten a better fire back there than you have Mud.", he yelled at Mudrock. Mud moved over to his side of the cab and looked back and said, "If I know old Ganger, he'll be cooking his breakfast." A couple of miles further on they would arrive at Tooligie, and for Lennie his first shift as a mainline engineman would be over. When Len brought the train to a standstill the tender was adjacent to the water hose of the overhead tank.

Mudrock on the coal tender placed the leather hose into the filler trough. Lighting his slush lamp, a kerosene lamp with a thick cord wick, reminiscent of Aladdin's lamp, Len descended from the cab to open the water valve for Mudrock. He then continued around the locomotive oiling the slide valves and motion gear. Returning to the cab, Mudrock spun the water valve of the injector to waste then closing the bottom cock he directed the water into the ashpan beneath the firebox. He then adjusted the rocker bar handle and rocked the grate bar clearing the dead ash from the fire bed into the ashpan.

Descending to the ground level, Mudrock operated an air tap located under the cab steps to open the ashpan door. With a great whoosh and splatter, the hot coals and water cascaded into the dump pit beneath. A great wall of steam almost enveloped the locomotive. Back in the cab using the long fire iron he spread the live fire from the back of the firebox, forward and with his shovel built up a fresh bed of fire.

Their work completed, Mudrock obtained a bucket of fresh warm water from the injector overflow, and taking soap and towel from his tucker box he removed his cap and shirt and proceeded to wash up. Speaking to Len he said, "When I get through here, I'll get a fresh bucket for you. It pays to clean up here, 'coz' you'll have to wait a long time for water to warm up in the barracks."

SAR narrow gauge, steam locomotive T-class 217 crossing with Brill motor 101 with trailer 303 at Tooligie. Photo by Peter Bruce.

At the barracks

A few minutes later the relief crew arrived on the footplate then after parring over orders and relief details, Len and Mud shouldered their respective tucker boxes to walk away from the steam engine towards the barracks, a galvanised iron building back among the Mallee trees. A lighted window with smoke rising from a chimney indicated that the guard old Ganger had arrived before them and had lit the fire in the kitchen stove.
A whistle blast shattered the quiet of the night and the train moved off towards Minnipa.
Walking along the pathway between the Mallee trees, Mud indicated a small out building to the side of the track. "That's the dunny", he said. "Watch out whenever you use it, there's red backs at night and snakes in the day. *Continued next page…*

"His Name Was Mud" *Continued…*

They entered the door of the iron building; three bedrooms along one side, kitchen, and bathroom on the other. The facing wall was almost obscured by two large rainwater tanks. All doors opened onto a central court, roofed with an almost flat verandah raked inward to supply the water tanks.

The two boys entered the kitchen. A fire burning brightly in the stove had already dispelled the chill from the room. They placed their boxes beside that of Ganger on a wide shelf running full length along one wall. The opposite wall was occupied by a large wooden cupboard standing beside a drain board and wood box. Above the drain board two wash up dishes, a dishmop and wire soap container were suspended from the nails in the corrugated iron wall.

A large wooden table occupied the centre of the room. An odd assortment of different shaped wooden chairs around the table completed the sparse furnishings of this room. The room was lit by a large oil lamp in the centre of the table. On the mantle-piece above the stove were three unlit kerosene lamps, a couple of candlesticks and two big ben alarm clocks proclaimed the time at one thirty a.m.

Old Ganger sat by the opened oven door, his back to the table, his face animated with the glow of the firelight. "Well boys," he drawled. "Kettles about to boil, figure you'll want to cook up a feed. I had crib over the last section," he continued, "so I reckin I'll turn in. If I don't get to sleep real soon I'll lay awake for hours." So, saying, he reached up, took a candlestick from the mantel, touched it to the fire and retired from the room.

It was not long before the area was pervaded with the aroma of eggs, bacon, toast, and fresh coffee. Their meal finished and utensils cleaned and stashed away, Mud took a candle, lit it and with a farewell to Len, went to his room for his rest period. Mudrock placed the candle on a chair beside the bed. Yawning widely, he sat on the side of the bed and in the flickering candle light he leaned forward to unlace his boots.

PLOP!! Off fell one boot onto the floor. He then thought of old Ganger asleep in the next room. Silently, he removed the other boot and his clothes and very quietly he slid into bed. He was almost asleep, when Ganger's voice, very irate and loaded with sarcasm, easily penetrated the wall.

"Fer cry sake drop the other boot and let a man get some sleep!!"

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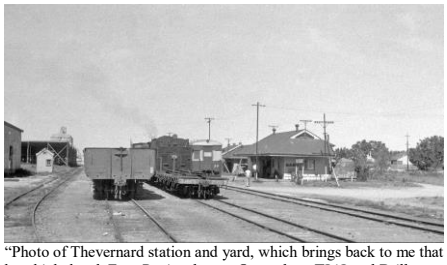
Some extra photos of the Eyre Peninsula Division of the South Australia Railways.

Port Lincoln to Penong Train 1924. Forum: Facebook - Ceduna Old Photos. Credit: State Library of South Australia



"Photo of Thevernard station and yard, which brings back to me that hot, high, harsh Eyre Peninsula sun. Steam loco T212 and Brill railcar 101 with trailer 303 in the platform road. January 9th 1963." Forum: Facebook - South Australian Railway Enthusiasts. Credit: Peter Bruce.

"Ningana, on the down. We had set out the wagon or maybe it was wagons in the loop and picked up that cattle wagon behind the gin here. There was a bloody great pig in that cattle wagon on its way to Port Lincoln. Probably, its first and last train ride. I think we set out some wagons at Kapinnie, but most of those wooden-sided bogie wagons were going to Mount Hope for loading with bagged wheat and to be picked up by the next fortnight's train. 10th January 1963." Forum: Facebook - South Australian Railway Enthusiasts. Credit: Peter Bruce.

"T180 hauling the Mount Hope goods train at Yeelanna, January 1963." Forum: Facebook - South Australian Railway Enthusiasts. Credit: Peter Bruce.

"Port Lincoln yard January 1963, I think the loco is T241 and the car, is it a relay van or a workman's sleeper? Dublin Street over-bridge in the background." Forum: Facebook - South Australian Railway Enthusiasts. Credit: Peter Bruce.

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Mel's Facebook Mineral Selections

Apophyllite and Stilbite from India. Forum: Facebook - Amazing Geologist. Credit: Superb Minerals.

Beryl var. Aquamarine from Erongo, Erongo Region, Namibia. Forum: Facebook - Amazing Geologist. Credit: SpiriferMinerals.

Azurite and Malachite from Concepción del Oro, Mun. De Concepción del Oro, Zacatecas, Mexico. Forum: Facebook - Amazing Geologist. Credit: Joe Freilich.

Chalcanthite from Poland. Forum: Facebook - Amazing Geologist. Credit: mineralsandfossils.

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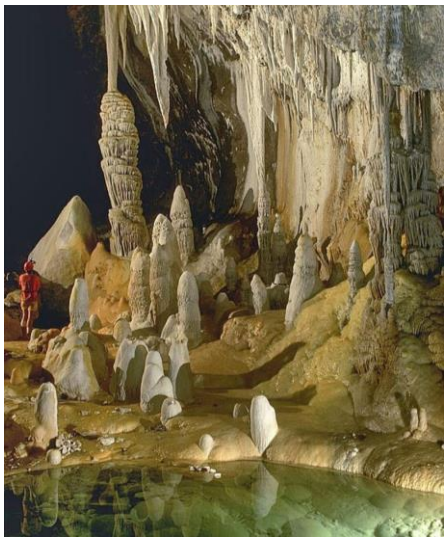
52 Breathtaking Caves from Around the World.



Caves have been the source of inspiration and awe to humans for centuries, and today proves to be no different. With spectacular natural formations, colours, and patterns, cave explorers are transported into a magical underground world for unforgettable experiences. Caves can be found all over the world in forms ranging from stone caves to ice caves to sea caves, each with unique characteristics, leaving no two caves with the same surprises.

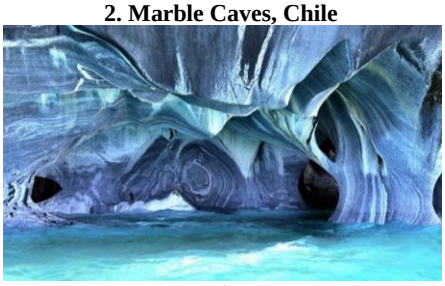
As well as their stunning beauty, caves are rich in history and cultural importance. Early humans and animals utilized caves as shelter, for which untouched remains tell modern historians and archaeologists a detailed story. Prehistoric cave art gives us a minor glimpse into human life multitudes of centuries earlier. Other uses of caves have included refuge, storage, extraction of resources, and religious observation.

Recent discoveries and technologies have made these hidden gems increasingly more accessible to adventure seekers all over the world. Visitors can take boat rides through cave rivers, hike through paths, crawl through tunnels and chambers, dive, or parachute into openings. No matter how experienced or inexperienced someone may be, there are breathtaking caves all over the world that offer adventure seekers opportunities to seek out some of the world's most beautiful experiences.

1. Reed Flute Cave, China

This limestone cave has attracted attention for more than 1200 years, with ink inscriptions dating back to the 8th century BCE during the Tang Dynasty. Reed Flute Cave gets its name from a reed that grows around the cave, which are used to make flutes. Today, colourful lights are used to illuminate the beautifully formed stalagmites and stalactites.

2. Marble Caves, Chile



Mother Nature has outdone herself with this alluring and stunning natural beauty. The Marble Caves were formed over 6,000 years from the waves of the Lake General Carrera constantly washing against the solid marble. The various hues and intensities of blue are a natural occurrence as a result of the lake's azure waters, creating patterns based on water levels and seasons.

3. Blue Cave, Greece

Arguably one of the most beautiful caves in the world, Blue Cave is one of the most celebrated natural occurrences in the Mediterranean. The entrance to the cave is just a meter above sea level, accessible by boat. The calm waters inside the cave pick up the reflection of the sun, so visitors can bask in awe in the blue illumination.

4. Antelope Canyon, Arizona, USA

Antelope Canyon, formed out of the erosion of sandstone from flash flooding and rain water, is truly awe inspiring. The rich colour of the Navajo sandstone and the flowing feeling of the cave walls attract visitors and photographers from all over the world to escape into this natural wonder.

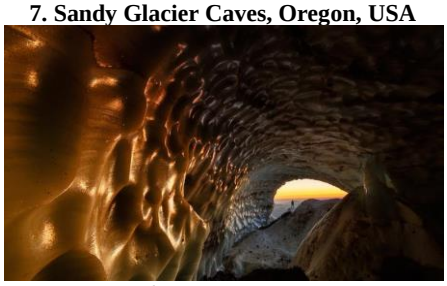
5. Waitomo Glow Worm Cave, New Zealand

There are hardly words enough to describe this wonder the Waitomo Glow Worm Cave sparks in visitors. With thousands of glow worms native to New Zealand, the cave walls and ceilings are naturally illuminated, creating a magical experience.

6. Crystal Cave, Mexico

Gypsum minerals surrounded by underground water heated up from the volcanic fault line resulted in the creation of Crystal Cave. Recently discovered during mine blasting, the draining of the water gave scientists a rare glimpse at something truly amazing. The crystals are recorded to be ten times larger than any known natural crystals.

7. Sandy Glacier Caves, Oregon, USA



Sandy Glacier is one of the largest ice caves in the USA. Formed from the internal melting of glaciers, the icy interior attracts thrill seekers looking for adventure. However, the rapid melting the glaciers assures this cave will only be around for another decade before it disappears forever.

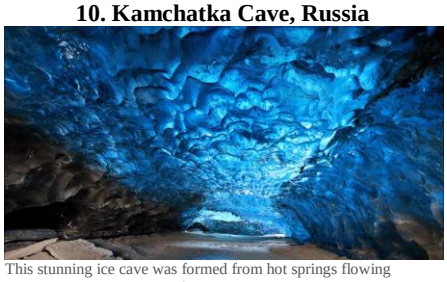
8. Batu Cave, Malaysia

The limestone forming the Batu Cave is dated back 400 million years, and evidence of human use of the cave can be dated to indigenous tribes. Batu Cave has since been dedicated as a Hindu religious site, attracting worshippers and tourists from all over the world to observe the peaceful and ornate temples, shrines, and statues that have been erected inside the cave and in surrounding areas.

9. Son Doong Cave, Vietnam

Recently discovered by a local man, Son Doong has been declared the largest known cave. With stalactites measuring up to 70 meters in height and cave pearls the size of basketballs, the size and beauty of this cave strikes wonder in everyone who comes to explore this underground gem.

10. Kamchatka Cave, Russia



This stunning ice cave was formed from hot springs flowing through glaciers. Melting of the glaciers in recent years has given the icy ceiling a texture and thinness that allows light to illuminate through, creating a surreal experience.

11. Predjama Castle, Slovenia

Ancient castles and caves make a great combination. Historical documents first make note of the castle in 1274. Built in Gothic style directly into the natural arch of the rock, the cave and castle duo was a protective measure. The white walls of the castle in contrast against the black stone of the cave make this a site fit for fairy tales.

52 Breathtaking Caves *Continued…*

12. Fingal's Cave, Scotland

This isolated sea cave, named after Irish folklore, is nothing short of magical and whimsical. With the whimsical rock formations and fog that rolls off the sea, visitors can feel like they've stepped into a sacred place.

13. Skocjan Caves, Slovenia

Skocjan Cave represents significance importance on a global level as a phenomenon. The Reka River, flowing the length of the cave, created underground wetlands. First written sources are dated to the 2nd century BCE, and maps of this cave are the oldest known cave maps in that part of the world. With entrances at the bottom of the valley, Skocjan will inspire adventure in anyone who goes to explore.

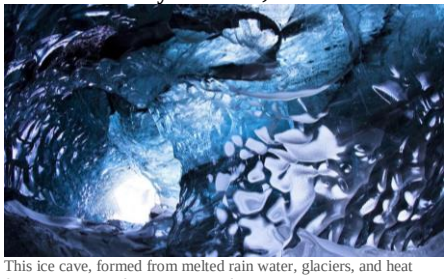
14. Blue Lake Cave, Brazil

Blue Lake Cave is known for its impressive natural formations, but even more impressive for its deep blue lake. The surrounding areas are known for underground lakes, but this natural coloured lake is by far, the most impressive.

15. Cueva De Arpea, Spain

This cave was formed under the twisted layers of rock at the bottom of the Aezkoa valley. The cave is believed to have been a utilized as a refuge through the ancient era for shepherds. The unique formations and rich colors make Cueva De Arpea a must-see for adventure seekers.

16. Crystal Cave, Iceland

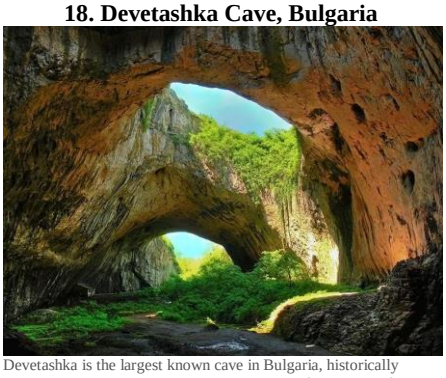


This ice cave, formed from melted rain water, glaciers, and heat from the volcanic fault line, is one for thrill seekers. Because ice caves are unstable, any movement of the cave or melting can be heard echoing.

17.Benigal Sea Cave in Algarve, Portugal

Near Benigal Beach, this sea cave is truly a sight to sea. The entrance is covered in fine sand and window at the top. The rich, warm colours of the formations and the sound of the sea make this cave alluring and welcoming.

18. Devetashka Cave, Bulgaria

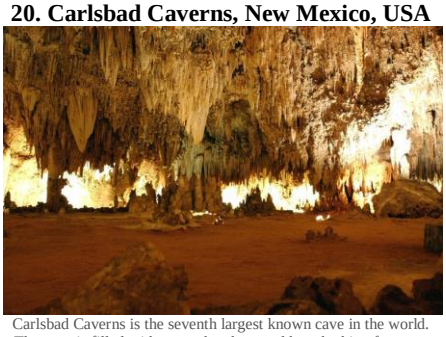


Devetashka is the largest known cave in Bulgaria, historically notable as home to various human populations for periods of time throughout history. Today, the cave is home to 30,000 bats.

19. Cenote Ik Kil, Mexico

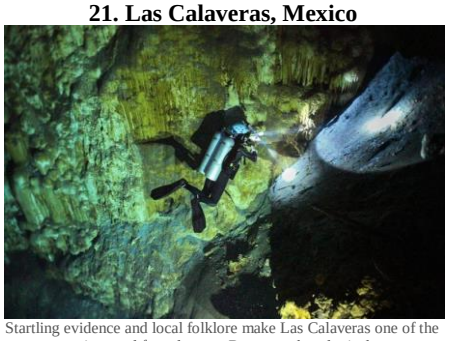
Ik Kil is a cave without a ceiling. Filled with water and black catfish, a stop for an afternoon swim and some exploring makes this an ideal stop for anyone looking for fun.

20. Carlsbad Caverns, New Mexico, USA



Carlsbad Caverns is the seventh largest known cave in the world. The cave is filled with mass chambers and breathtaking features, most notably the white ornate stalactites that leave visitors in awe.

21. Las Calaveras, Mexico



Startling evidence and local folklore make Las Calaveras one of the most mysterious and feared caves. Recent archaeological excursions have found 125 human remains dating to the ancient Mayan period.

22. Olwolgin Cave, Australia

This underwater cave takes explorers and adventure seekers into a tranquil world. With no waves or currents, cave explorers get a completely new experience through the various chambers.

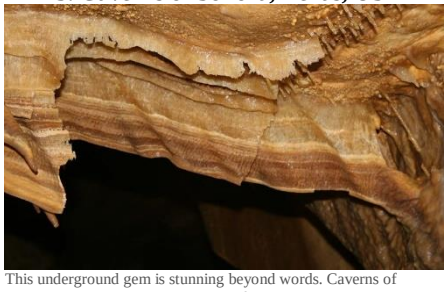
23. Jiu Xiang Caves, China

Noted as one of the most beautiful caves in China, Jiu Xiang Caves attracts numerous visitors every year. With multiple karsts and natural formations and occurrences, every corner brings about a new breathtaking surprise.

24. Chinhoyi Caves, Zimbabwe

The beautiful underwater cave has been attracting explorers since its discovery in 1888. Despite divers going as deep as 120 meters, no one has reached the bottom yet, leaving lots to be discovered.

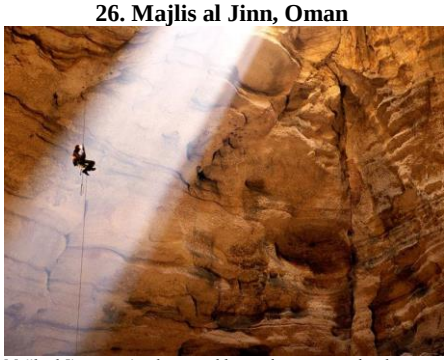
25. Caverns of Sonora, Texas, USA



This underground gem is stunning beyond words. Caverns of Sonora are covered in calcite crystal formations, leaving visitors speechless from the beauty that they witnessed.

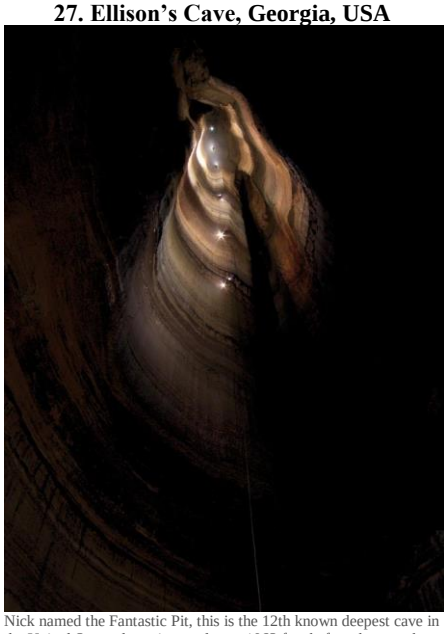
52 Breathtaking Caves *Continued…*

26. Majlis al Jinn, Oman



Majils al Jinn contains the second largest known cave chamber, proving a challenge for thrill seekers. Explorers have to hike to the entrance of the cave and get lowered in by special rope.

27. Ellison's Cave, Georgia, USA

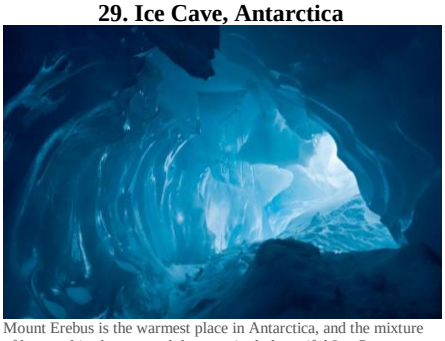


Nick named the Fantastic Pit, this is the 12th known deepest cave in the United States, lowering explorers 1063 feet before they reach the bottom. Due to the obstacles, only the most experienced thrill seekers are allowed to take on the challenge.

28. Lechuguilla Cave, New Mexico, USA

Lechuguilla Cave is easily the most special cave in the entire world. Until 1986, it was considered a small, insignificant cave, used for mining bat guano. Recent exploration proved otherwise, with the discovery of massive chambers with some of the rarest formations.

29. Ice Cave, Antarctica



Mount Erebus is the warmest place in Antarctica, and the mixture of heat and ice has created the stunningly beautiful Ice Caves beneath the frozen soil.

30. Onondaga Cave, Missouri, USA

Amongst over 5,500 caves in Missouri, Onondaga cave is notably the most attractive. With a river that flows through and limestone formations, visitors are transported to completely new underground world.

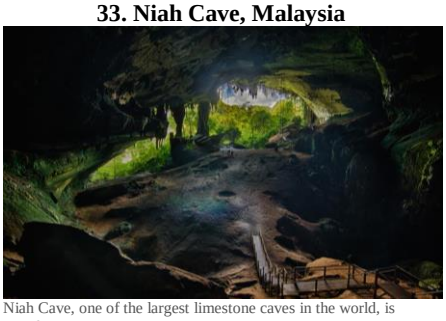
31. Eiriesenwelt Cave, Austria

This is the largest known ice cave, offering visitors spectacular colours and formations, including frozen waterfalls. The ice walls are up to 20 meters thick, and the maximum temperature the cave reaches is 0 degrees Celsius.

32. Saotano de las Golondrinas, Mexico

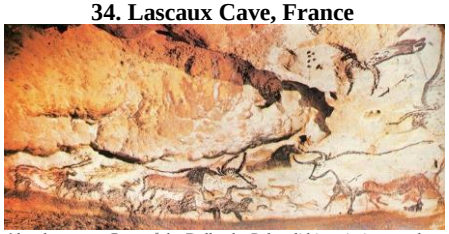
The sheer size of this cave is enough to send adventure seekers' adrenaline pumping. This cave is so deep, the Empire State Building could fit in it. Explorers can either be lowered in by rope or can parachute into the cave. With stunning formations and even underwater parts of the cave, this cave will not fail to amaze anyone who visits.

33. Niah Cave, Malaysia



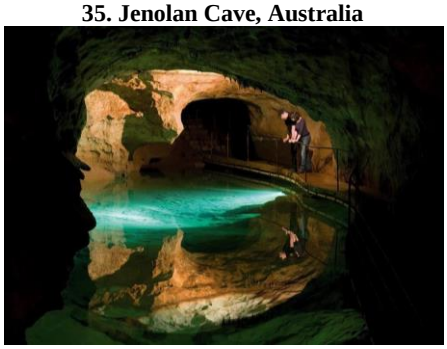
Niah Cave, one of the largest limestone caves in the world, is significant in both aesthetically and historically. With known human activity in the cave dating 40,000 years ago, archaeologists are certain the inhabitants here were amongst the earliest settlers in eastern Malaysia. With high ceilings and stunning scenery, Niah Cave is a popular destination amongst adventurers.

34. Lascaux Cave, France



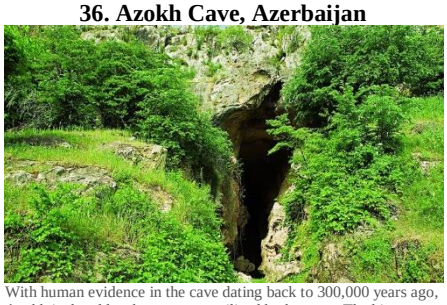
Also, known as Cave of the Bulls, the Palaeolithic paintings on the cave walls bring visitors back 17,300 years. The images have left visitors, art historians, and scientists awe struck and baffled, as explanations for the images are still being uncovered.

35. Jenolan Cave, Australia



Situated in the Blue Mountain region, Jenolan is the most ancient discovered cave in the world. With over 300 discovered entrances, marine fossils, and stunning formations, active exploration is still occurring. The cave's beauty inspires multitudes of visitors to come and take in this stunning underground treasure.

36. Azokh Cave, Azerbaijan

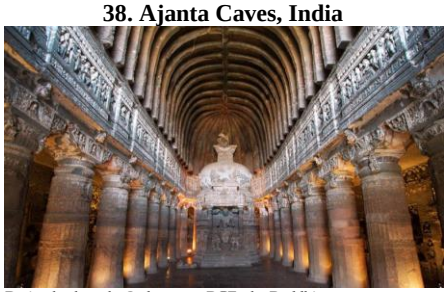


With human evidence in the cave dating back to 300,000 years ago, Azokh is the oldest known cave utilized by humans. The history within the cave's interior is just as impressive as the stunning formations and scenery.

37. Hato Cave, Curacao

Formations made out of coral limestone make this a popular place for visitors to explore. As well as natural formations, cave paintings and petroglyphs left behind from runaway slaves over a century ago leave visitors with wonderment.

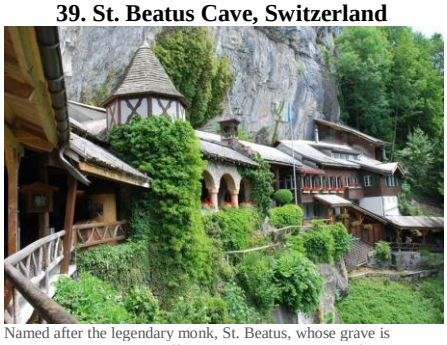
38. Ajanta Caves, India



Dating back to the 2nd century BCE, the Buddhist cave monuments carved into the stone is considered one of the finest surviving examples of Indian art. With keen detail, it would be difficult for visitors to not be taken aback by the beauty and tranquillity left here.

52 Breathtaking Caves *Continued…*

39. St. Beatus Cave, Switzerland

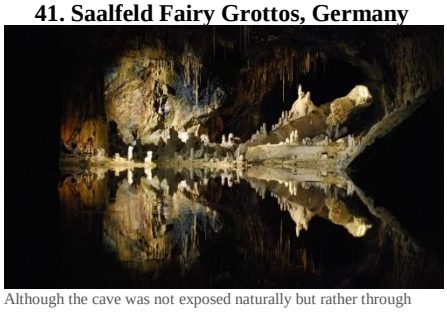


Named after the legendary monk, St. Beatus, whose grave is nearby, St. Beatus Cave offers visitors a pleasant day of exploration. A legendary dragon was said to reside in the cave, until driven away by St. Beatus. Filled with spectacular formations and roaring waterfalls, St. Beatus Cave offers visitors an adventure to be remembered.

40. Caves of Heaven and Hell, Turkey

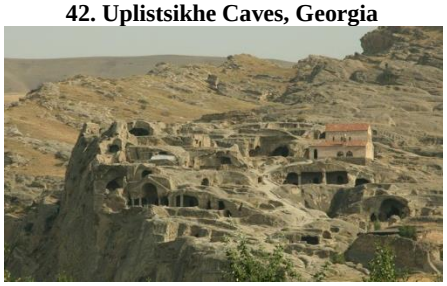
Two caves, the chasm of Heaven and the pit of Hell, take visitors back to Greek mythological periods, where battles between Zeus and the Titans are said to have created the caves. With an ancient temple and a restaurant, visitors can spend a day exploring the depths of the caves, filled with stunning formations and history, then enjoy a light meal at the edge of the cave.

41. Saalfeld Fairy Grottos, Germany



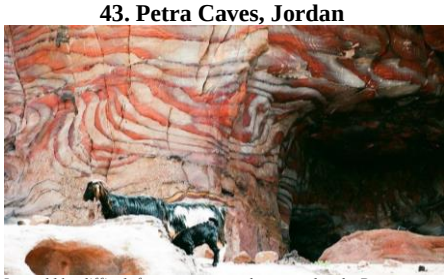
Although the cave was not exposed naturally but rather through mining, it does not change the breathtaking chambers the lie underground. With the lure of fairies, visitors come far and wide to explore this magical place and all the wonderful beauty is has to offer.

42. Uplistsikhe Caves, Georgia



This is not just one cave, but an entire cave town. First in habited in 1000 BCE, what remains today is enough to leave everyone in awe.

43. Petra Caves, Jordan

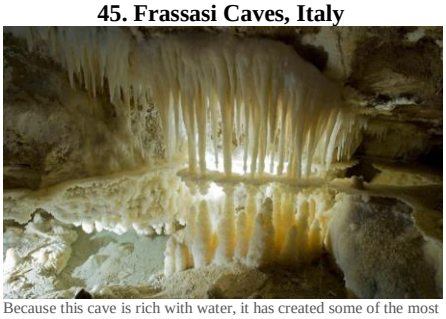


It would be difficult for anyone not to be amazed at the Petra Caves. With stunning colours, rock formations, and patterns, it is truly a place to be seen to believe.

44. Green Canyon, Indonesia

With green fringe draping off the walls and an emerald green river, it is easy to know how Green Canyon got its name. As one of the most popular destinations to explore in Jave, visitors can't help but be completely awe struck at the amazing beauty they are surrounded by when visiting, whether they're exploring the cave or taking a swim.

45. Frassasi Caves, Italy



Because this cave is rich with water, it has created some of the most impressive natural formations. Since its discovery in 1971, it rapidly became Italy's most famous show cave.

46. Hoyo Negro, Mexico

The underwater cave offers so much amazement. The sheer sizes of the chambers are enough to say wow. But the discoveries scattered throughout the cave are true treasures. Remains of a 12,000-year-old girl have been found, the oldest complete human remains found in the Americas, along with the remains of numerous extinct animals.

47. Naracoorte Caves, Australia

This series of caves have been amazing scientists and explorers since its discovery in 1969. With water ways, beautiful formations, and fossils of over 100 different animal species, Naracoorte Caves have offered nothing but discoveries for eager explorers.

48. St. Michael's Cave, UK

With use of the cave dating back thousands of years, St. Michael's Cave has an allure that can't keep visitors away. Massive chambers, spectacular formations, and rich history attract 1,000,000 visitors annually.

49. The Cave of Three Bridges, Lebanon

Jurassic limestone, a waterfall when the snow melts, and three naturally formed bridges easily makes Cave of Three Bridges one of the most beautiful places. The size of this formation and the stunning views make a visit to this place unforgettable.

50. Mermaid's Cave, Ireland

Mermaid's Cave lays at the bottom of a cliff under Dunluce Castle. Filled with Irish magic and lure, anyone who comes to explore will leave in awe.

51. Miners Castle Cave, Michigan, USA

This sea cave along Lake Superior is a show of spectacular colors and formations. Because the cave is along the waters, explorers can take kayaks through the caves to be fully surrounded by the beauty of Miners Castle Cave.

52. Blue Cave, Croatia

With the entrance, just above sea level, this hidden sea cave is nothing short of inspiring. At certain times of day, the water illuminates an intense blue that sparkles off the cave walls.

http://www.placesyoullsee.com/52-breathtaking-caves-from-around-the-world/

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Members' Noticeboard

Garage Sale

Rocks, Minerals, Gemstones, Mineral Books and booklets.

Quartz Crystals, rare crystals, cutting material, etc.

Saturday 18th March 2017 and Sunday 19th March 2017,

From 9am to 4pm each day.

Contact: Vince 8258 9917

Address:
23 Dorset Street,
BRAHMA LODGE, 5109 SA.

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For Sale

GEMMASTA GS.10

10 Inch Power Feed Saw

Complete with - Board, Motor and Hood

Excellent Condition

Price New - $3,100

For Sale - $1,400

Contact Tony Bailey at 0400293057

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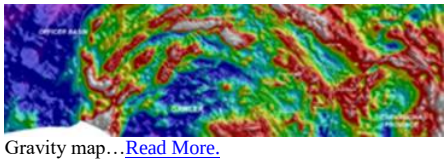

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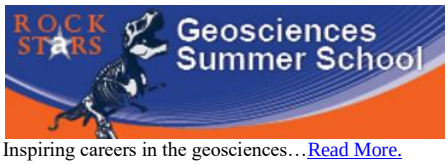

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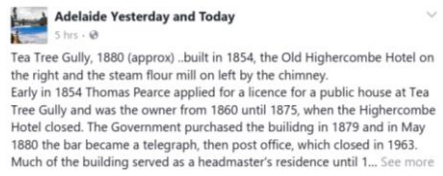
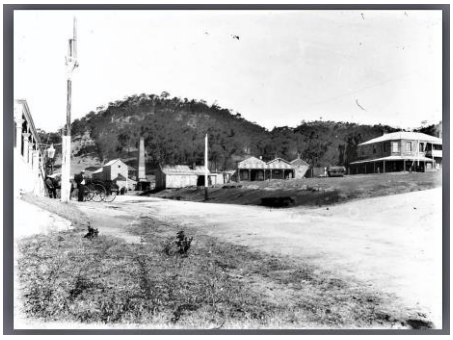

Adelaide Yesterday and Today
5 hrs

Tea Tree Gully, 1880 (approx) ..built in 1854, the Old Highercombe Hotel on the right and the steam flour mill on left by the chimney.
Early in 1854 Thomas Pearce applied for a licence for a public house at Tea Tree Gully and was the owner from 1860 until 1875, when the Highercombe Hotel closed. The Government purchased the builidng in 1879 and in May 1880 the bar became a telegraph, then post office, which closed in 1963. Much of the building served as a headmaster's residence until 1... See more



Useful Internet Links

2017 Australian Gem & Mineral Calendar: Gem & Mineral Calendar

Adelaide Gem and Mineral Club: AGMC

AFLACA-GMCASA: AFLACA-GMCASA

Australian Federation of Lapidary and Allied Crafts Association (AFLACA): AFLACA

Australian Lapidary Forum: Australian Lapidary Forum

Broken Hill Mineral Club: BHMC

Enfield Gem and Mineral Club Inc: EGMC

Flinders Gem, Geology and Mineral Club Inc: FGGMC

Gem and Mineral Clubs Association of South Australia: GMCASA

Metal Detectors - Garrett Australia: Garrett Australia

Metal Detectors - Miners Den Adelaide: Miners Den Adelaide

Metal Detectors - Adelaide Agent for Garrett Australia: Shell Lap Lapidary Supplies Pty Ltd

Mineralogical Society of SA Inc: MinSoc

Murraylands Gem and Mineral Club Inc: http://www.murraylandsgmc.org.au/

NQ Explorers: NQ Explorers

Prospecting Australia: Prospecting Australia

Shell-lap Lapidary Supplies: Shelley's Lapidary Supplies Pty Ltd

Southern Rockhounds: Southern Rockhounds

The Australian Mineral Collector: The Australian Mineral Collector