

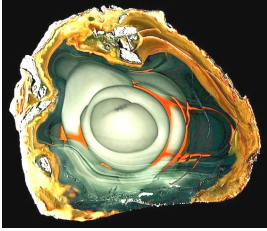





Tea Tree Gully Gem & Mineral Club Inc. (TTGGMC)
Clubrooms: Old Tea Tree Gully School, Dowding Terrace, Tea Tree Gully, SA 5091.
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**July
Edition
2020**

"Rockzette"

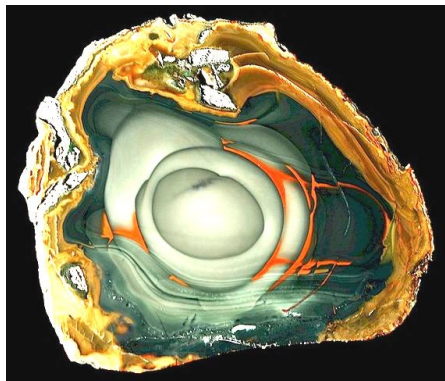
Tea Tree Gully Gem & Mineral Club News

President's Report	General Interest	Club Activities / Fees						
<p>Hi All,</p> <p>Well the good news is that the Club started opening up again 2 weeks ago for all classes, whilst still maintaining the requirement for social distancing. Hopefully, we'll be able to keep progressively moving forward, provided the State doesn't have a cluster of new outbreaks from overseas travellers or interstate. Monthly meetings are still on hold, as we still cannot comply with current distancing rules in the meeting room for more than a handful of members.</p> <p>During the down time, a small crew of 5 dedicated members undertook some much-needed maintenance at the Club one day a week over 6 weeks. The shed has been emptied, a trailer load of rubbish taken to the dump, the interior cleaned out, rearranged and new storage shelves built across the back and down half of one side. Carpet tiles, which were becoming a trip hazard in the workshop, have been replaced and glued-down, and the cutting room given a makeover, with the machines cleaned up, de-rusted and repainted. My sincere thanks to those who participated, namely Ken, Allan, Doug, and Augie.</p> <p>Till next month,</p> <p>Cheers,</p> <p>Ian.</p>	<p>Pages 2 and 3: Augie's July 2020 Jasper Selections...</p>  <p>Page 3 and 4: Augie's July 2020 Ruby Birthstone Selections...</p>  <p>Pages 5 to 7: Ian's July 2020 Collection Selections...</p>  <p>Pages 8 to 12: 'Newcastle and Rail – The Never-ending Story' ...</p>  <p>Pages 13 to 20: General Interest, humour, etc...</p> <p>Page 21: Members' Noticeboard and Links...</p> <p style="text-align: center;">***</p>	<p>Meetings General monthly meetings have not resumed yet due to SA Covid-19 Pandemic physical distancing requirements.</p> <p>Library <i>Librarian - Augie Gray</i> 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.</p> <p>Tuesday Faceting/Cabbing Tuesdays - 10 am to 2 pm. All are welcome. Supervised by Doug Walker (7120 2221).</p> <p>Wednesday Silversmithing Wednesdays - 7 pm to 9 pm. All are welcome. Supervised by Augie Gray (8265 4815 / 0433 571 887).</p> <p>Thursday Cabbing Thursdays - 10 am to 2 pm. All are welcome. Supervised by Augie Gray (8265 4815 / 0433 571 887).</p> <p>Friday Silversmithing Fridays - 9 am to 12 noon. All are welcome. Supervised by John Hill (8251 1118).</p> <p>Faceting/Cabbing/Silversmithing Fees: A standard fee of \$3.00 per session applies – to be paid to the session supervisor.</p> <p>In the interest of providing a safe working environment, it is necessary to ensure everyone using the workshops follow the rules set out in <i>Policy No. 1 - 20/11/2006</i>.</p> <p>It is necessary that <u>Health and Safety</u> regulations are adhered to always.</p> <p>Everyone using the workshop must ensure:</p> <ul style="list-style-type: none"> • that all club equipment (e.g. magnifying head pieces, faceting equipment, tools, etc.) used during the session, is cleaned, and returned to the workshop after usage. • that all workstations 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 or dried. <p>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.</p> <p>Club Subscriptions:</p> <table border="0"> <tr> <td>\$25.00 Family</td> <td>\$20.00 Family Pensioner</td> </tr> <tr> <td>\$15.00 Single</td> <td>\$12.50 Single Pensioner</td> </tr> <tr> <td colspan="2">\$10.00 Joining Fee</td> </tr> </table>	\$25.00 Family	\$20.00 Family Pensioner	\$15.00 Single	\$12.50 Single Pensioner	\$10.00 Joining Fee	
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\$10.00 Joining Fee								
Diary Dates / Notices								
<p style="text-align: center;">Happy Birthday Members celebrating July birthdays: 11th – Raelene Jessop.</p> <p style="text-align: center;">***</p>								
<p>The Tea Tree Gully Gem & Mineral Club Inc. is not and cannot be held responsible or liable for any personal injuries, loss or damage to property at any club activity, including, but not limited to, meetings, field trips, all crafts and club shows. An indemnity is to be signed by all participants before each and every field trip activity they attend.</p>								

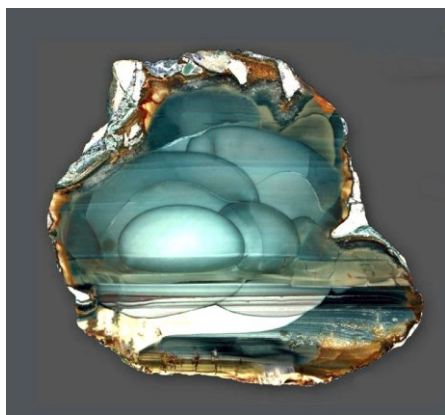
Contributed by Augie Gray...

Blue Mountain Jasper...

A fine porcelain Jasper from Malheur County, Oregon, renowned for its orb formations.



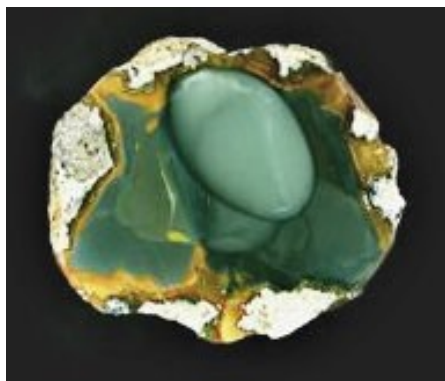
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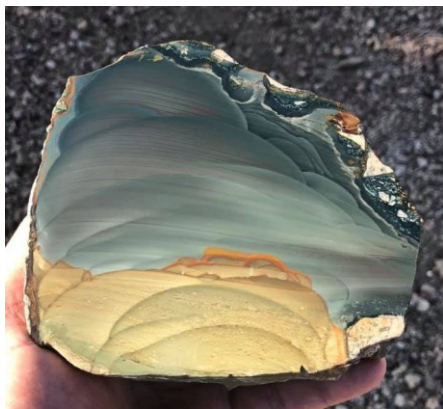
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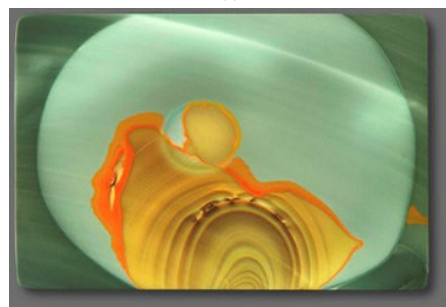
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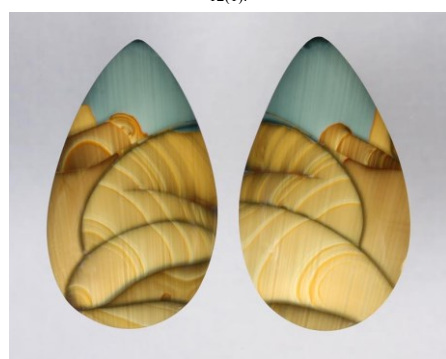
10(3).



11(2).



12(1).



15.



13.



14.

Contributed by Augie Gray...

July Birthstone - Ruby...

Ruby is one of the two varieties of Corundum, the other being Sapphire.

While Sapphire can occur in virtually every colour, Ruby is always red or pink.

The difference between a deep pink Sapphire and a Ruby comes down to the saturation of colour. The colouring agent in both is chromium.

Corundum, at hardness 9, is the 2nd hardest mineral on the Mohs scale, being surpassed only by Diamond.

Tech Stuff

Hardness: 9

Crystal system: Hexagonal

Specific Gravity: 3.9 – 4.1

Refractive Index: 1.76 – 1.77

The most valuable Rubies with the finest natural color come from Mogok, Burma (Myanmar).

Other important Ruby sources include Sri Lanka, India, Cambodia, Vietnam, Tanzania, and Mozambique.

In 2000, new Ruby sources were discovered in Madagascar (Vatomandry and Andilamena). These deposits turned out to be very extensive and productive, and Madagascar is now one of the leaders in Ruby output.

Ruby is identical in appearance to red Spinel. Many old famous red gemstones thought to be Rubies were determined to be Spinel. Ruby and Spinel often occur together in the same mineral environment and localities.

The most famous ruby, the Black Prince's Ruby, set into the royal crown of England, was once thought to be the largest cut Ruby, until scientific analysis determined it to be in fact Spinel.

Garnet (particularly Pyrope) and red Tourmaline can also resemble Ruby, though Ruby is significantly harder.



Imaged by Heritage Auctions, HA.com

1.



2.



3.



4.



5.



6.



7.



8.



12.



9.



Ruby in Zoisite.



Trapezoid Ruby.



10.



Star Ruby.



11.



Star Ruby ring.

Some specimen pictures sourced from different mineral group sites on Facebook...



[Geology Wonders Group](#) - Pagoda Manganocalcite? From the Manaoshan Mine, Dongpo ore field, Suxian District, Chenzhou Prefecture, Hunan Province, China. Photo: [The Mineral Collective](#)



[Amazing Geologist](#) - A beautiful combination of purple fluorite crystals with cherry-red rhodochrosite on contrasting black tetrahedrite matrix from the 18-03 pocket Detroit City project, Sweet Home Mine, Alma Colorado, USA! Photo by: Riley Owen Collection: [Collector's Edge Minerals](#) #mineral



[Geology Page](#) - Azurite. Locality: Touissit, Oujda-Angad Prov., Oriental Region, Morocco. Size: 4.5 x 3.2 x 2.5 cm. Photo Copyright © Anton Watzl Minerals.

Contributed by Ian Everard...



0011 Quartz with Hematite Inclusions, Mt Lyle, TASMANIA.



0142 Chlorite Inclusions in Quartz, BRAZIL.



0286 Quartz and Siderite, Mogdan, HUNGARY.



0658 Quartz var Smoky, Minas Gerais, BRAZIL.

Contributed by Ian Everard...



0530 Quartz after Calcite, Tinkers Gully, Thames North Island, NEW ZEALAND.



0916 Quartz, Meknes, MOROCCO.



0065 Quartz with Hematite Inclusions, Cleator, Arizona, USA.



0074 Quartz with Chlorite Inclusions, BRAZIL.



0605 Quartz on Galena, Krushev dol Mine, Maden, BULGARIA.



0950 Quartz after Calcite, Tambar Springs, NSW.



0445 Quartz with Pyrite, Creswell Mine, Stanley, Ontario, CANADA.



0662 Quartz var Smoky, Minas Gerais BRAZIL.



1021 Tourmaline on Quartz with Lepidolite, MADAGASCAR.



0449 Quartz, Regina Gr, SWITZERLAND.



0826 Quartz and Chlorite, Val D' Aosta, ITALY.



1349 Rose Quartz, Pitorra Mine, Galileia, Minas Gerais, BRAZIL.



0450 Quartz with Chlorite Inclusions, Schyn GR, SWITZERLAND.



0830 Quartz, Clear Creek Crystal Mine, Mt Ida Arkansas, USA.



0454 Quartz with Graphite Inclusions, Piz Regina Gr, SWITZERLAND.

Contributed by Ian Everard...



0451 Quartz with Graphite Inclusions, Piz Regina Gr, SWITZERLAND.



0458 Quartz var Smoky with Anatase, Val Giuv Gr, SWITZERLAND.



0729 Quartz var Smoky with phantoms, BRAZIL.



0452 Quartz var Smoky, Val Giuv Gr, SWITZERLAND.



0459 Quartz, Piz Regina Gr, SWITZERLAND.



0952 Quartz after Calcite, Tamber Springs, NSW.



0453 Quartz on Calcite, Piz Beverin Gr, SWITZERLAND.



0460 Quartz var Smoky with Adularia, Grimsel, SWITZERLAND.



1120 Quartz, Hot Springs, Arkansas, USA.



0455 Quartz with Graphite inclusions, Piz Regina Gr, SWITZERLAND.



0634 Quartz, Hazel Creek, Palmer, Missouri, USA.



0456 Quartz with Graphite Inclusions, Piz Regina Gr, SWITZERLAND.



0457 Quartz var Smoky, Val Giuv Gr, SWITZERLAND.



0675 Epidote on Quartz, Mitchell Plateau Kimberley Region WA.



2057 Quartz & Fluorite, Renison Bell Mine, TASMANIA.

Contributed by Mel Jones...

‘Newcastle and Rail – The Never-ending Story’ by Garry Reynolds Part 21 of 24...



The Newcastle City waterfront today where Aborigines once fished from canoes, convicts hewed coal and a railway system developed and disappeared over a period of 160 years. Source: *Familypedia*.



A wet night in Broadmeadow Railway Yard, Newcastle in 1995. Source: *Bradley Coulter*.

The Hunter Valley Coal Chain

The railway supply chain feeding the world's largest coal export port – Newcastle – is highly sophisticated in carrying over 100 million tonnes annually.

It evolved from Australia's first railway, the Australian Agricultural Company's short coal gravitational line carrying only a few hundred tonnes to the shore of Newcastle Harbour in 1831.

The opening of the Great Northern Railway was the next major step in forming a coal chain. In 1857, it extended from East Maitland to Honeysuckle Point (today's Wickham), just short of the former Newcastle Station and Railway Yard.

Now, the chain has expanded up the Hunter Valley and beyond for 450kms.

Historian, Peter Attenborough, points out at the peak of the steam era, the focus of the supply chain was on Port Waratah just north of Carrington. It was an island reclaimed by harbour dredging and became the hub of the New South Wales Government Railways' (NSWGR) operations in the Hunter Valley.

After its opening in 1908, Port Waratah was linked by a short line from Scholey Street Junction into the throat of the sprawling yard. Just before branching off the Main Northern Line, coal trains passed over a weighbridge at Tighes Hill. They then eased over a slight crest before rolling into a network of gravitational sidings then dropping into the Port Waratah Yard.

In addition to the coal sidings at Carrington, there were the Morandoo Sidings serving the now demolished BHP Steelworks and others serving Bullock Island Wheat Terminal.

Newcastle was not only a 'steel city', but a 'ribbons of steel city'!

The Fifties Steam-hauled Coal Chain

In 1950, 80 coal mines stretched North way past Maitland with lines into the Hunter Valley.

To the South, they reached Lake Macquarie, branching off the 'Short North' Main Line joining Newcastle to Sydney.

In the busy Hunter rail network, slow heavy coal trains had to wrestle with finding paths through the faster local and long-distance goods and passenger services.



Port Waratah Departure Roads in 1996. Source: *David Patterson*.



Coal train congestion at Tighes Hill. Source: *Bing Images*.



The competition for slots around Maitland was always intense. Ancient end-platform cars pulled by a veteran 32-class steam engine with a coal train with equally ancient wooden hoppers arrives on the dedicated coal lines on its way to the Port of Newcastle pulled by a more modern 48 class diesel electric locomotive. Note, the tracks used by the coal trains have a distinct layer of coal on the sleepers. Source: *Hive miner*.



Locomotive 3807 leading an airconditioned express between the coal trains out of Fassifern for the climb up the Fassifern Bank in 1966 on the 'Short North' section of the Main Northern Railway Line. Source: *David Patterson*.



A DEB multiple car set sprints between Adamstown and Kotara on the 'Short North' in 1983 between coal trains and long-distance goods consists. Source: *Brad Coulter*.

To the West of Newcastle, lines branched off the Main Northern Line around Wallsend. Coal trains had an easier time here with less passenger trains interrupting their progress.

There was increasing congestion on the Main Northern Line with all these trains funnelling into the Port and Newcastle Station and suburban network. Therefore, from 1910 onwards a dual line from Maitland to Islington Junction, near the inner Newcastle suburb of Hamilton, was constructed to create a four-track corridor. The two additional lines were designated for coal trains.



More competition for line space out of Maitland as an 80-class diesel locomotive hauls the North Coast Daylight Express with a smorgasbord of carriage types and liveries in 1985. Source: *David Patterson*.

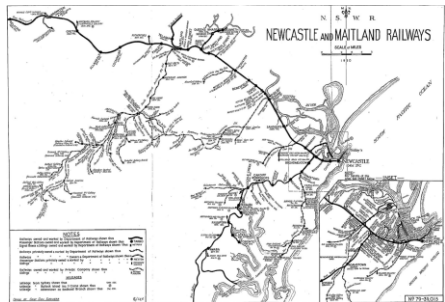


Squeezed between the mainline steam locomotives, tank engine 2001 hauls a short passenger train from East Greta Junction. Source: *Newcastle Herald*.

There were also lines feeding into the coal wharves at Hexham on the Hunter River where the ships from Sydney called "Sixty Milers" docked. These lines included those running from the South Maitland Coalfields with the privately-owned South Maitland Railways (SMR) and its exchange sidings with the NSWGR.



A tank locomotive replenishes its diminutive coal stock. Source: Newcastle Herald.



The extent of the sprawling Newcastle and Maitland Railways network in 1950. Source: NSWGR.

Increasingly, lines extended further up the Hunter Valley with branches joining the Main Northern Line at Branxton, Singleton and Muswellbrook.

Despite the growing distances to the rail hub at Port Waratah, the steam-hauled trains were still predominantly hauling coal in the ancient design of 4-wheel, non-air-braked wooden hoppers. There were 12,000 of them in the system. Simply maintaining them was an industry in itself!



Wooden coal hoppers queued up at Hexham Exchange Sidings. Source: Mark Fetscher



A ROD locomotive built for the British on the Western Front during WW1 pulling out of Hexham Exchange Sidings. Source: Chris Nelson.



A lonely wooden hopper sits amidst the reclaimed swamp of the Hexham Exchange Sidings. Source: Flickr.



Running the wooden hoppers full of coal to the Port of Newcastle. Source: University of Newcastle.



Hauling empty wooden coal hoppers through Hexham Station back to their collieries. Steam the Final Years.



Changes coming - an SMR tank locomotive working hard through a yard with an array of steel wagons (on the left) and aluminium coal wagons in the middle. Source: Freewebs.



Beyer Garratt 6039 winds its way out of Singleton heading to Liddell Power Station with a combination of coal wagons. Source: Steam Train Stories.



An SMR loaded coal train with wooden hopper wagons and a tiny guard's/brake van wends its way through the picturesque Lower Hunter countryside. Source: Hiveminer.



A heavily loaded SMR coal train still working hard at dusk. Source: Piccsr.



The last wooden hoppers dumping at the Hexham Coal Preparation Plant in 1987. Source: University of Newcastle.

Peter Attenborough points out that in the early 1950s, as the use of 'small coal' increased in electricity-generating power stations, 'washing plants' were constructed at collieries or in central locations. The Hexham Exchange Sidings had a major plant.



Grading coal in the late 19th century at Newcastle. Source: Flickr.



The 19th century Newcastle Mining Company grading and load out facility for wooden rail hoppers in the short coal chain to the Port of Newcastle. Source: Newcastle Herald.

Later, they became known as 'Coal Preparation Plants' and were designed to remove the stone from the 'smalls' to contain the labour costs of sorting.

The sidings network had to be expanded at Hexham but was constrained by swampy land, so an area was reclaimed by using the 'waste' stone.

At this sprawling yard adjacent to the Hunter River, mainline locomotives brought the coal to the Hexham Coal Preparation Plant. Shunting locomotives then took over the full hoppers and manoeuvred them to be hooked to a winding capstan wire mechanism which pulled them through the Plant. The hoppers rolled over a rise and then descended into the dump area. Here, the lower doors on the hopper wagons were triggered to open. This allowed the coal to cascade into the bin below before heading for treatment.

During this period of the 1950s, the Hunter Region suffered from abnormally high rainfall events causing significant floods. Any railway plans had to factor in increased risks of inundation.



Floods at Maitland Station in 1955. Source: Flickr.



The lady taking her children onto the platform shouldn't expect a train any time soon. Source: Goodfreephotos.



A busy West Maitland Station in dry times. Source: Piccsr.

In the late 1950s, the demand for coal by railways across Australia declined as dieselisation increased. With reduced sales, many collieries on the northern fields closed.



Dieselisation in Broadmeadow Yard in 1972. Source: John Tipper.



A heavy train with aluminium coal wagons heads to Newcastle from Willow Tree in 1975. Source: David Patterson.



A coal train rolls down and up a curve in the Hunter. Source: Flickr.

There were other challenges to coal. Road transport took an increasing share of freight while aggressive multinational oil companies subsidised their products to replace coal. As well, large gasholders which used to dominate the skyline in towns and cities and were fed on coal delivered by rail, were being replaced with directly connected natural gas via interstate pipelines.

Those coal companies remaining, started to merge to gain economies of scale. In the early 1960s. Coal & Allied Industries became the largest producer of coal in Australia at that time.



Aluminium-wagons coal train awaiting unloading at Kooragang 1982. Source: David Patterson.



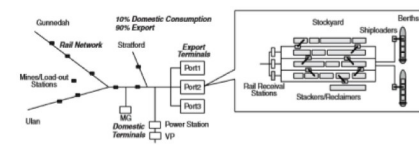
Now, powerful locomotives pull coal trains up to 1.5kms long to feed the Port of Newcastle. Source: AJM.

Evolution of Coal Handling

After the 1950s, once Hunter coal was washed and graded at the mine and preparation plants, some was sent to nearby power stations either on conveyor systems or by trucks using private haul roads.

However, most was, and is, still loaded on trains destined for the coal terminals at Newcastle for export to countries including Japan, China and South Korea where it is used in the manufacture of steel products or generating electricity in thermal power stations.

To manage the challenges in taking the coal to the Port of Newcastle by rail, the Hunter Valley Coal Chain was formed. It is a joint venture of mining companies, rail operators, terminal and port operators.



A simplified coal supply chain schematic. Source: CSIRO.



Loading coal at the Port of Newcastle after being delivered by rail. Source: Engie ANZ.

To expedite the loading of coal ships around their scheduled arrival times, stockpiles are built up in the stockyards at the terminals to service the needs of the particular clients who have chartered the vessels.



A massive Newcastle coal reclaiming machine. Source: Newcastle Herald.

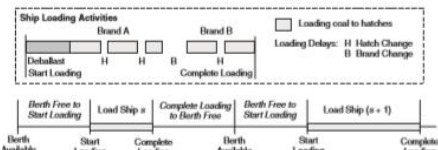
The average tonnage of a coal vessel arriving at Newcastle is 84,000 tonnes and it takes 5-10 days to stockpile enough coal to fill it.

On a ship's arrival, coal is reclaimed and sent to a ship-loader serving the ship's berth. To optimise resources in a 'just-in-time' approach and minimise handling and storage costs, the last of the raiting process is aimed to be completed just before the reclaiming process from the stockpiles to load the ship.

At the coal terminal, the train must wait for access to an in-loading receival (dump) station. However, to avoid congestion and delays at the Port Terminals, rail operators prefer trains to wait at a specific mine's load-point loop until the optimum time arrives for their run to the Port across a range of pre-booked rail paths.

Meanwhile, as the train moves through the dump station at the Port Terminal, doors in the floor of the wagons open and the coal falls onto a conveyor belt feeding machines that stack the coal into stockpiles in the stockyard.

The stockyard has several rows for building stockpiles. Between these rows, massive stacking and reclaiming machines travel on single tracks. Only certain machines can serve the stockpiles in a specific row. Trains scheduled to bring coal from designated mines have nominated dumpers and stackers for unloading and placing coal in the stockpiles.



A simplified schematic for a coal terminal. Source: CSIRO.



Stockpiling and reclaiming at Port Waratah Coal Terminal. Source: Angelfire.

Highly accurate tracking of coal train loads is required as the coal brand in each stockpile is blended from fractions of different products and each product comes from a different mine.

Train schedulers must calculate the number of train trips from a given mine while train operators must work out the most efficient locomotive and wagon consists for serving the mine on each trip.



A rail balloon load-out loop at Mount Thorley Mine. Source: Brian Andrews.

There are 40 mines using at least 30 coal load out points spread across the Hunter Valley Region. Further complexity, arises because there are four main rail haulage providers: Pacific National, Aurizon, Glencore and Southern Shorthaul Railroad. Each have different locomotive and wagon consist capacities.

These train operators need to consider load out point restrictions as their managers have preferred and regulated train sizes while the operators need to secure a train path on the Main Northern Line suited to the train's capacity and the terminal's stockpiling requirements and ship arrival times.

To help meet this complex challenge, the CSIRO has developed highly sophisticated computer-based mathematical models to assist all the players, and especially the Federal Government's Australian Rail and Track Corporation's (ARTC), management of line capacity.



Scholey St Junction in 1994 on the Main Northern Line. Source: David Patterson.



A long train enters a rail balloon loop into a Newcastle coal terminal. Source: ABC.

With at least 40 coal trains making over 20,000 trips per year, flexibility is built into trip scheduling depending on a range of factors from mine load out to vessel departure.

Variables can include delays at the mine loadout point; the degree of on-time running of the train between the mine loadout point and its junction with the Main Northern Line; and whether the booked slot is still available on the Main Northern Line depending on the timely performance of other coal, freight and passenger trains.

On top of this, all the coal trains, let alone the passenger and freight trains on the Main Northern Line, have different speeds and stopping and separational distances.

Once joining the Main Line, Central Train Control will try to minimise delays. Of course, there are all the usual railway operational variables that can affect the progress of the coal train before branching off to the Port of Newcastle and its allocation to one of the three terminals with five berths for approximately 1,200 vessels per year.

As well, crews have time limits in the cab, so appropriate allowances must be made for crew changeovers.

To avoid congestion at the terminals, there also needs to be readily available train paths to enable prompt return of the empty wagons to the mines.

Extreme accuracy is needed at the terminals as each vessel is loaded with a number of coal brands from over 80 available and the brands must be loaded in a certain order.

The coal producers specify which mines will provide the components that will be blended to build the brands in the stockpiles. Brands are taken from stockpiles and stacked on pads in the stockyard ready for loading when the vessel arrives.



An unanticipated variable in the Coal Supply Chain, rail officials and police removing environmental protestors. Source: Newcastle Herald.



A derailment of a coal train entering the busy four track section to the Port. Source: tripmondo.

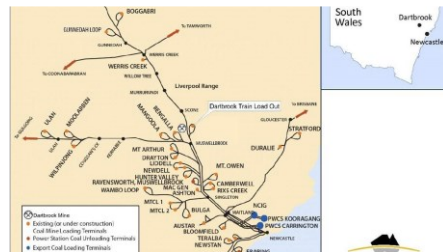


Sometimes not everything goes according to plan. In 2012, a fully laden coal train derailed just South of Boggabri and five wagons plunged off a bridge. Fortunately, nobody was injured. Source: Australian Journal of Mining.



An Xstrata coal train coming in off a private line headed with a load to the Port of Newcastle. Source: Bing Images.

The Hunter Valley Coal Chain - organisation



Part of the modern coal supply chain to the Port of Newcastle. Source: PWCS.

Background

Prior to the formation of an integrated coal chain management organisation, in 1994, it was announced that the Main Northern Line coal corridor would be opened up to other operators. Until then, the NSW Government's FreightCorp and its Government predecessors had operated trains. The breaking of the monopoly introduced competition and a drive for greater efficiencies.

However, in 2003, after markets were being lost and long queues of up to 70-80 ships were sitting for extended periods at great cost off the Port of Newcastle, the Hunter Valley Coal Chain Logistics Team was established to improve the movement of coal from Hunter Valley mines to the Port's coal loaders.

The Team integrates the knowledge and resources of port and railway operators with railway infrastructure managers. With advice from the Team, the Hunter Valley Coal Chain Coordinator manages the capacity requirements of the system while minimising the cost of demurrage. This is a charge payable to the owner of a chartered ship if there is a failure to load or discharge the ship within an agreed time.

Smoothing the coal train passage

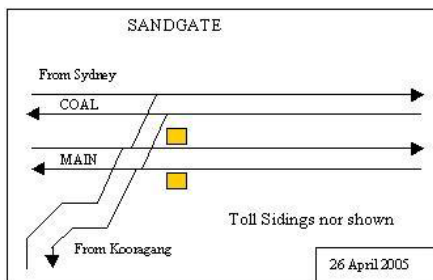
The Hunter Valley rail infrastructure is owned by the NSW Government's RailCorp and managed by ARTC under a 60-year lease until 2064. The other infrastructure associated with

coal transport, such as load-out points, are privately owned, usually by a mine or a coal loader.

The line capacity West of Maitland is made up of two tracks, with three in places, all being shared with passenger trains operated by NSW TrainLink.

East of Maitland there are four tracks with the southern pair exclusively for the use of coal trains. There is an underpass at Hanbury west of Waratah which allows trains to reach the Port Waratah coal loader without having to cross the northern pair of tracks and other freight trains.

To alleviate congestion which frequently sees loaded trains queuing, five relief roads were constructed from 2013 onwards at Hexham. This allows coal trains to be pass one another and reach the ports in a logical order.



Schematic Plan of the Sandgate Flyover. Source: Quikwiki.

Previously in 2006, the \$80m Sandgate Flyover was opened to allow coal trains to access the two Kooragang Island coal loaders without having to cross opposing freight and passenger trains paths.



Before the flyover, a coal train crossing blocks multiple tracks. Source: Railpage.



Constructing the 1 in 25 grade 3-kilometre Sandgate Flyover. Source: Arup.

Until construction of the Sandgate Flyover, the former at-grade junction had 120 coal trains per day having to cross from the coal lines over the Main Northern lines to reach the Kooragang Island Branch Line built in 1984 to the Kooragang Coal Terminals. To add to the congestion under the old system, the dual main line passenger and freight tracks also carried about 120 trains per day.

Coal trains regularly had to wait for 30 minutes or more for general freight and passenger trains to pass before crossing the line to Kooragang Island. The delay often cascaded up the Hunter Valley Coal Chain.

With the Flyover, line speeds were improved with the 25 km/h crossing points replaced by ones that allow coal trains to operate at 60 km/h and the same four lines at Sandgate could now take 25% more traffic.



A long-distance container train rolls over the crest of the Sandgate Flyover. Source: YouTube.



A DEB passenger set crests the Flyover in 2007. Source: Bradley Coulter.



Twin interurban Hunter sets give their passengers a 'roller-coaster' ride over the Sandgate Flyover. Source: Railpictures.

Part 22 of 24 in the August 2020 newsletter.

Watch some videos that I have taken over the years in the Maitland – Newcastle Area (Hunter Valley Region, NSW) ...

2017 Hunter Valley Steamfest

[Train Enthusiast's Video Diary 2017-04-07](#)

[Train Enthusiast's Video Diary 2017-04-08](#)

[Train Enthusiast's Video Diary 2017-04-09](#)

[Train Enthusiast's Video Diary 2017-04-10](#)

1988 Australian Bi-Centennial Activity – Steam Locomotive 3801 visits Newcastle

[Train Enthusiast's Video Diary 1988-01-30](#)

1986 SMR Tank Steam Locomotives still hauling coal over the Hexham Swamp well after the end of commercial steam locomotive hauled trains in all states of Australia...

[Train Enthusiast's Video Diary 1986-08-29](#)

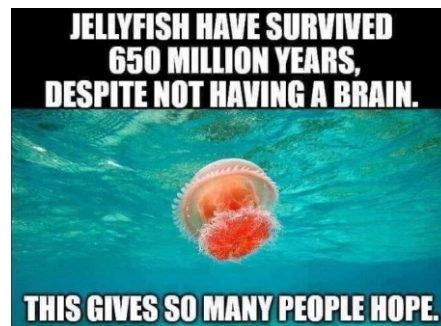
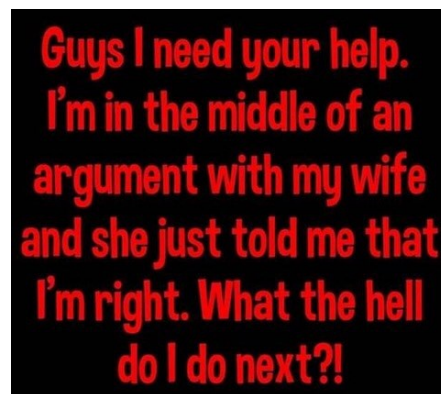
[Train Enthusiast's Video Diary 1986-09-01](#)

[Train Enthusiast's Video Diary 1986-09-02](#)

[Train Enthusiast's Video Diary 1986-09-03](#)

Contributed by Doug Walker...

Cheer up!



Contributed by Chris Browne...

**Helen and Chris's Outback Safari
June 2020**



Giant yabby.



3 Spoonbills.



View from our campsite.



Nardoo grinding stone near King's rescue site from Burke & Wills expedition 1861.



Aboriginal mussel shell midden heap - same place.



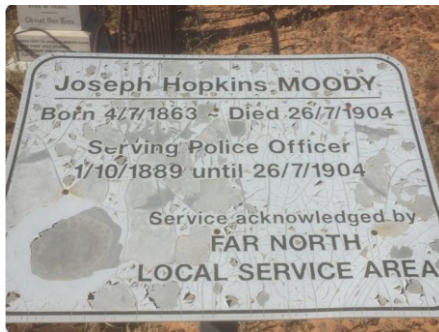
Mate Tim and his two sons at happy hour.



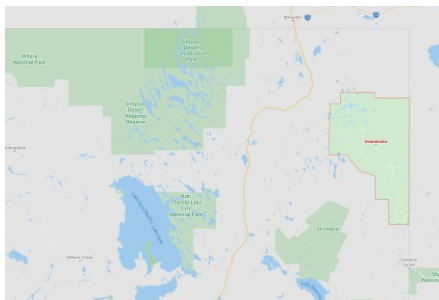
Tony our musical neighbour.



At Innamincka Cemetery.



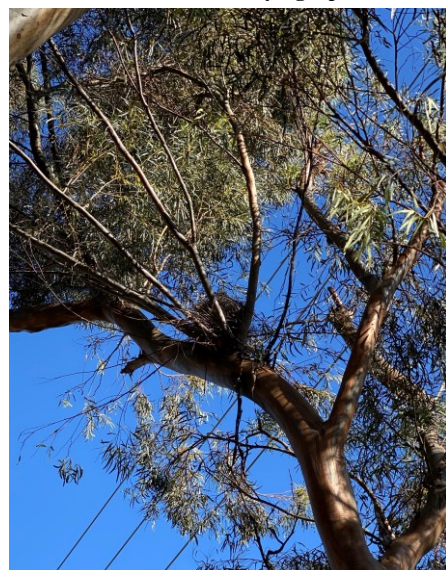
Police Officer; was a relative of another mate.



Innamincka - Coopers Creek

Contributed by Mel Jones...

Local Birds Playing Up



Magpie's nest in our neighbour's yard made with native vegetation and 52 small pieces of bird-wire taken from our yard.

The female bird responsible for this nest has used this material on two other occasions to build nests, once in the gum tree in our yard above the letter box and once in another neighbour's tall gum tree, which has since been chopped down.

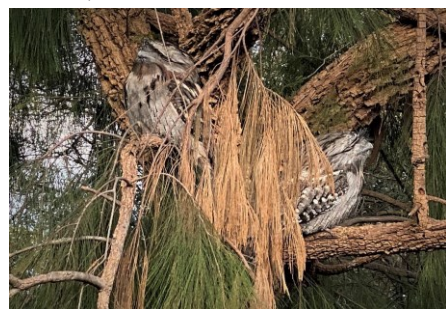
How did this come about?

Well...some time ago, while dismantling a large aviary in our backyard, I noticed a magpie tugging at a large piece of bird-wire that was loose but still attached at one end. So, I detached the wire and cut it into narrow strips...thinking perhaps that this bird wanted it for a nest. The next day the strips of bird-wire were gone. A nest was in the making. I took some video and photos, but the tree was too high to get a clear picture to show here. The second nest was visible from our yard, but too far away for photographs.

The tree shown above, I photographed its new nest while standing on the footpath below.

Yesterday morning, I was alerted to a bird-commotion near our driveway. So, I grabbed my phone to get a record. The magpie pair from that nest above, with the aid of three noisy minor birds, were giving our two resident tawny frogmouth birds (roosting in the tall gum tree above the letter box) a hard time. Anyway, my presence ended the squabble and my photo opportunity.

Maybe, the proximity of the tawny frogmouths to the magpie's nest was probably the issue (approx. 20meters).



Our resident Tawny Frogmouth pair.

Contributed by Augie...



A Man Decides to Retire

One day a man decided to retire. He booked himself on a Caribbean cruise and proceeded to have the time of his life, that is, until the ship sank.

He soon found himself on an island with no other people, no supplies, nothing, only bananas and coconuts. After about four months, he is lying on the beach one day when the most gorgeous woman he has ever seen rows up to the shore. In disbelief, he asks, "Where did you come from? How did you get here?" She replies, "I rowed over from the other side of the island where I landed when my cruise ship sank."

"Amazing," he notes. "You were really lucky to have a rowboat wash up with you." "Oh, this thing?" explains the woman. "I made the boat out of some raw material I found on the island. The oars were whittled from gum tree branches. I wove the bottom from palm tree branches, and the sides and stern came from a Eucalyptus tree."

"But, where did you get the tools?" "Oh, that was no problem," replied the woman. "On the south side of the island, a very unusual stratum of alluvial rock is exposed. I found that if I fired it to a certain temperature in my kiln, it melted into ductile iron I used that to make tools and used the tools to make the hardware." The guy is stunned.

"Let's row over to my place," she says. So, after a short time of rowing, she soon docks the boat at a small wharf. As the man looks to shore, he nearly falls off the boat. Before him is a long stone walk leading to an exquisite bungalow painted in blue and white. While the woman ties up the rowboat with an expertly woven hemp rope, the man can only stare ahead, dumb struck.

As they walk into the house, she says casually, "It's not much, but I call it home. Sit down, please." "Would you like a drink?" "No! No thank you," the man blurts out, still dazed. "I can't take another drop of coconut juice." "It's not coconut juice," winks the woman. "I have a still. How would you like a Pina Colada?" Trying to hide his continued amazement, the man accepts, and they sit down on her couch to talk.

After they exchange their individual survival stories, the woman announces, "I'm going to slip into something more comfortable. Would you like to take a shower and shave? There's a razor in the bathroom cabinet upstairs."

No longer questioning anything, the man goes upstairs into the bathroom. There, in the cabinet is a razor made from a piece of tortoise bone. Two shells honed to a hollow ground edge are fastened on to its end inside a swivel

mechanism. "This woman is amazing," he muses. "What's next?"

When he returns, she greets him wearing nothing but some small flowers on tiny vines, each strategically positioned, she smelled faintly of gardenias. She then beckons for him to sit down next to her.

"Tell me," she begins suggestively, slithering closer to him, "We've both been out here for many months. You must have been lonely. There's something I'm certain you feel like doing right now, something you've been longing for, right?" She stares into his eyes.

He can't believe what he's hearing. "Don't tell me...", he swallows excitedly as tears start to form in his eyes!

"You've built a golf course?"



The Wife



Now here's a wife in a million!

Wife: I'm heading to the store, do you want anything?

Husband: I want a sense of meaning and purpose in my life... I seek fulfilment and completeness within my soul... I want to connect to God and discover the spiritual side of me...

Wife: Be more specific, Beer or Vodka?

I asked my wife if I was the only one she'd been with.

She said yes, all the others had been nines and tens...

My wife told me to go to the doctors and get some of those tablets that 'help' get an erection.

You should have seen her face when I came back and tossed her some diet pills!

I'm still looking for a place to live..

The other night, my wife asked me how many women I'd slept with. I told her, "Only you. All the others kept me awake all night!" The doctor says I should be able to see again in about ten days. The broken arm will take about a month.

When our lawn mower broke and wouldn't run, my wife kept hinting to me that I should get it fixed.

But, somehow I always had something else to take care of first, the shed, the boat, making beer.. Always something more important to me.

Finally she thought of a clever way to make her point.

When I arrived home one day, I found her seated in the tall grass, busily snipping away with a tiny pair of sewing scissors. I watched silently for a short time and then went into the house. I was gone only a minute, and when I came out again I handed her a toothbrush.

I said, "When you finish cutting the grass, you might as well sweep the driveway."

The doctors say I will walk again, but I will always have a limp.

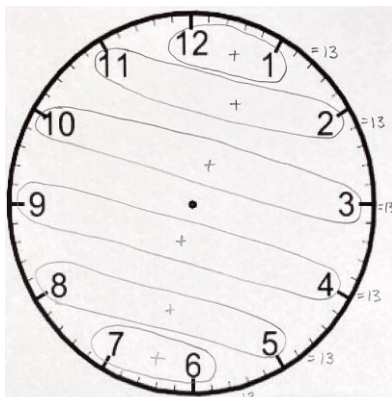
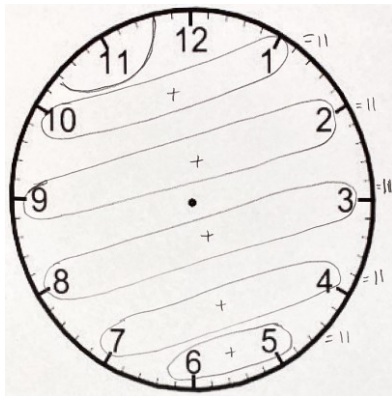
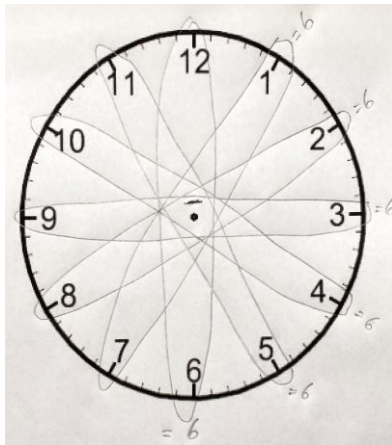
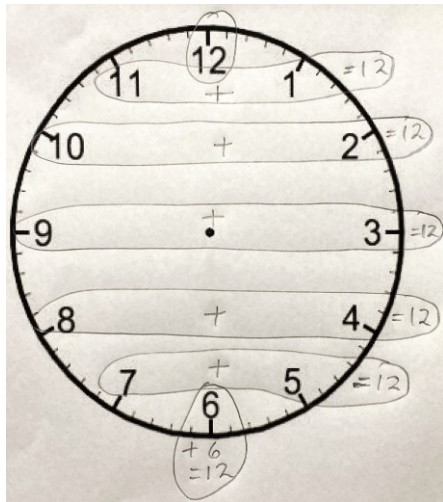
Everyone is talking about coming out of this quarantine with a new skill or side hustle.

I'm just sitting here wondering how I never noticed there's a turd in Saturday.

Contributed by Augie...

Did you know you could do this with a clock?

Interesting Maths



From Rolls-Royce Staff Magazine...

Sometimes it DOES take a Rocket Scientist! Scientists at Rolls Royce built a gun specifically to launch dead chickens at the windshields of airliners and military jets all travelling at maximum velocity.

The idea was to simulate the frequent incidents of collisions with airborne fowl to test the strength of the windshields.

American engineers heard about the gun and were eager to test it on the windshields of their new high-speed trains.

Arrangements were made, and a gun was sent to the American engineers.

When the gun was fired, the engineers stood shocked as the chicken hurtled out of the barrel, crashed into the shatterproof shield, smashed it to smithereens, blasted through the control console, snapped the engineer's back-rest in two and embedded itself in the back wall of the cabin like an arrow shot from a bow.

The horrified Yanks sent Rolls Royce the disastrous results of the experiment, along with the designs of the windshield and begged the British scientists for suggestions.

You are going to love this ...

Rolls Royce responded with a one-line memo: "Defrost the chicken!"

Book Titles

- "Pain Relief" by Ann L. Jesik
- "The Life of Quasimodo" by Belle Ringa
- "Dinner's Ready!" by Carmen Gettit
- "Didn't Quite Make It" by Dee O'Way
- "Confessions of a Gold Digger" by Emile Tickett
- "Hot Dog" by Frank Furter
- "We Meet Again" by Gladys Eeya
- "A Bestiary of Plant Eaters" by Herb Avore
- "The Rowdy Crowd" by Jocelyn Shuv
- "Bad Language" by Kirsten Swaw
- "Crackdown" by Lauren Orda
- "Irish Soap Opera" by Mel O'Drama
- "Political Correctness" by Noah Fence
- "Grave Mistakes" by Paul Barer
- "Garden Care" by Ray King

A bit of light relief from the Fire Service – Good Advice

..4..

AUSTRALIAN GOVERNMENT FIRE HOSE SPECIFICATIONS

ALL HOSE IS TO BE MADE OF A LONG HOLE, SURROUNDED BY CANVAS, RUBBER OR PLASTIC AROUND THE HOLE.

ALL HOSE IS TO BE HOLLOW THROUGHOUT THE ENTIRE LENGTH - DO NOT USE HOLES OF DIFFERENT LENGTH THAN THE HOSE.

THE I.D. (INSIDE DIAMETER) OF ALL HOSE MUST NOT EXCEED THE O.D. (OUTSIDE DIAMETER) - OTHERWISE THE HOLE WILL BE ON THE OUTSIDE.

ALL HOSE IS TO BE SUPPLIED WITH NOTHING IN THE HOLE SO THAT WATER CAN BE PUT INSIDE AT A LATER DATE.

ALL HOSE OVER 500FT. (153M) IN LENGTH SHOULD HAVE THE WORDS "LONG HOSE" STENCILED ON EACH END SO THE FIREFIGHTER WILL KNOW IT IS A LONG HOSE.

HOSE OVER 2 MILES (3.2KM) IN LENGTH MUST ALSO HAVE THE WORDS "LONG HOSE" STENCILED IN THE MIDDLE SO THE FIREFIGHTER WILL NOT HAVE TO WALK THE ENTIRE LENGTH OF THE HOSE TO DETERMINE WHETHER OR NOT IT IS A LONG HOSE OR SHORT HOSE.

ALL HOSE OVER 6 INCHES (152MM) IN DIAMETER MUST HAVE THE WORDS "LARGE HOSE" STENCILED ON IT SO THE FIREFIGHTER WILL NOT MISTAKE IT FOR A SMALL HOSE.

BE SURE TO SPECIFY TO THE C.F.A. WHETHER YOU WANT LEVEL, UPHILL OR DOWNHILL HOSE. IF YOU USE DOWNHILL HOSE FOR GOING UPHILL, THE WATER WILL FLOW THE WRONG WAY.





About James Breakwell

Comedy writer. Pig owner. Father of four girls ages eight and under. @XplodingUnicorn on Twitter. Internet famous. Real-life nobody.

Next Page has a sample of webtoons by James Breakwell

<https://www.jamesbreakwell.com/>

#1702 - Course Correction

If you had to do it all over again, would you still marry me?

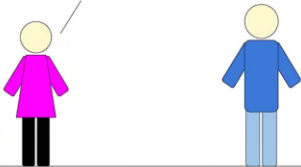


Probably.

Really?



I had four kids with you. Do I look like someone who learns from their mistakes?



James Breakwell

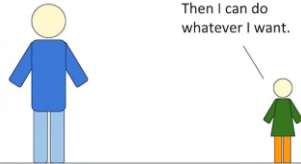
JamesBreakwell.com

#1711 - Total Freedom

I can't wait till I grow up.



Then I can do whatever I want.



Do I look like I can do whatever I want?



I won't be married to Mom.

James Breakwell

JamesBreakwell.com

#1569 - Hey Beautiful

You look nice today.



Are you saying I don't look nice other days?



You look nice every day.



How come you don't say it every day?



I'm usually blinded by your beauty.



So you weren't blinded today?

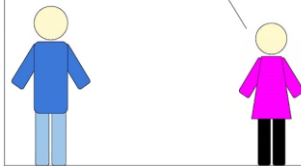


James Breakwell

JamesBreakwell.com

#1746 - Going It Alone

I'll be out of town for most of next week.



Will you be okay watching everyone by yourself while I'm gone?



Please. I can handle three kids.



We have four.



James Breakwell

JamesBreakwell.com

#1477 - Duck and Cover

Why are you hiding under the table?



Your mom found out her secret candy stash is gone.

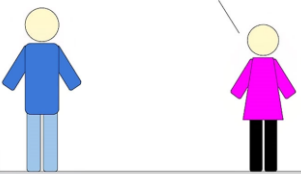


#1706 - Positive Attributes

You're smart and confident and beautiful.



Thank you.



Your turn. What am I?



Lucky to have me.



James Breakwell

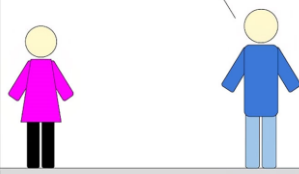
JamesBreakwell.com

#1779 - Mortal Enemy

I hate going home for the holidays.



There's so much food, and I'm going to eat it all.



You could just exhibit a little self-control.



That's not how food works.



James Breakwell

JamesBreakwell.com

#1460 - True Romance

What did you get me for Valentine's Day?



I'm going to leave you alone so you can take a nap.



Are you crying?



These are tears of joy.

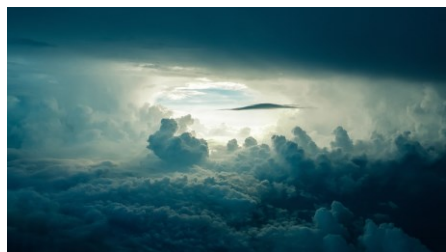


JamesBreakwell.com

@XplodingUnicorn

Contributed by Doug Walker...

The Flat Earth Society Is Worried That Social Distancing Will Push People Over the Edge.



How to get to Heaven from Ireland.

(A true Story from an Irish Sunday School Teacher.)

I was testing children in my Dublin Sunday school class to see if they understood the concept of getting to heaven.

'I asked them, ' If I sold my house and my car, had a big garage sale, and gave all my money to the church, would that get me into heaven?' 'NO!' the children answered.

'If I cleaned the church every day, mowed the garden, and kept everything tidy, would that get me into heaven?'

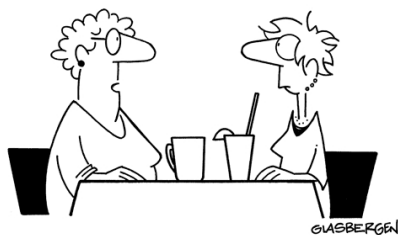
Again, the answer was 'NO!'

'If I gave sweets to all the children, and loved my husband, would that get me into heaven?' Again, they all answered 'NO!'

I was just bursting with pride for them. I continued, 'Then how can I get into heaven?' A little boy shouted out: 'YUV GOTTA BE FOOKN' DEAD.'

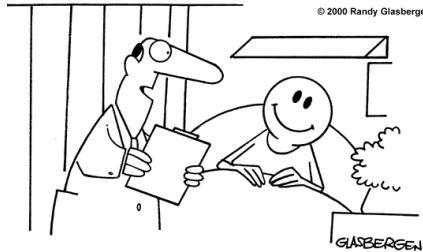
Brings a tear to the eye, doesn't it?

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"Your father and I aren't as wild as we used to be. Does arm wrestling for the last slice of pizza count as intimate physical contact?"

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"Your plastic surgery was a great success, Mrs. Jones. The lines and wrinkles are completely gone!"

31 to 41, of 81 Crazy Things You Probably Did Not Know About Australia



- 31) The male platypus has venom strong enough to kill a small dog.
- 32) And when the platypus was first sent to England, it was believed the Australians had played a joke by sewing the bill and feet of a duck onto a rat.
- 33) Before 1902, it was illegal to swim at the beach during the day.
- 34) A retired cavalry officer, Francis De Groot stole the show when the Sydney Harbour Bridge officially opened. Just as the Premier was about to cut the ribbon, De Groot charged forward on his horse and cut it himself, with his sword. The ribbon had to be retied, and De Groot was carted off to a mental hospital. He was later charged for the cost of one ribbon.
- 35) Australia has 3.3x more sheep than people.
- 36) Prime Minister Harold Holt went for a swim at Cheviot Beach and was never seen again.
- 37) Australia's national anthem was 'God Save The King/Queen' until 1984.
- 38) Wombat poo is cube shaped! This helps it mark its territory.
- 39) European settlers in Australia drank more alcohol per capita than any other society in history.
- 40) The Australian Alps receive more snowfall than Switzerland.
- 41) A kangaroo is only one centimetre long when it is born.

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"Look at the bright side. It's nice to know that our sex life doesn't contribute to global warming."

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"So I forgot my wedding vows! You expect me to remember a conversation we had 25 years ago???"

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"At your age, good health is pretty much a thing of the past. My advice is, find an illness you enjoy."

Contributed by Alan Rudd...

zippo

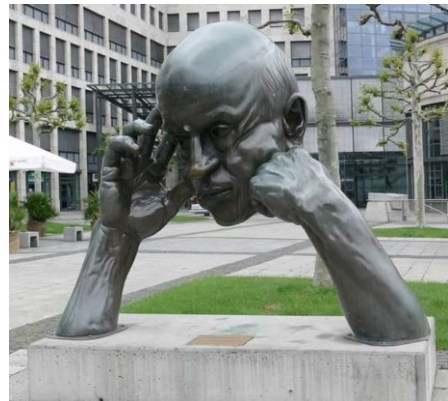
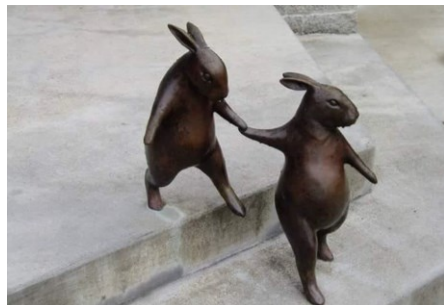
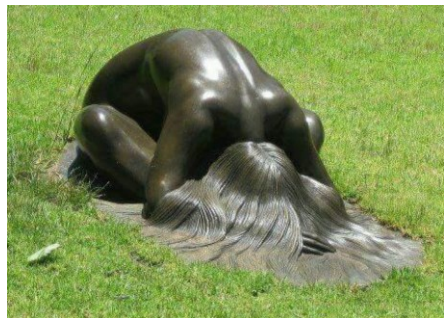
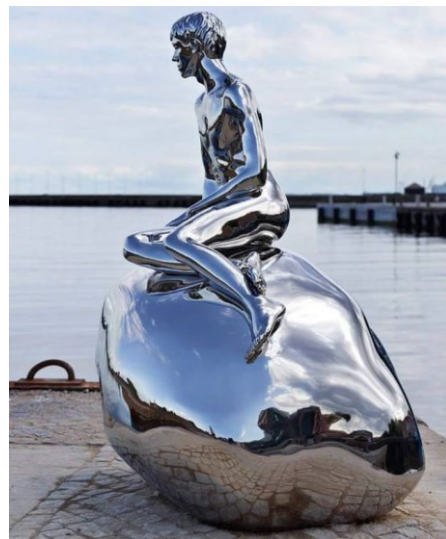


Corny Jokes.

- 1) What do dentists call their x-rays? *Tooth pics!*
- 2) What is the difference between a hippo and a zippo? *One is really heavy and the other's a little lighter.*
- 3) I entered ten puns in a contest to see which would win. *No pun in ten did.*
- 4) Where does a waitress with only one leg work? *IHOP.*
- 5) Did you hear about the cheese factory that exploded in France? *There was nothing left but de Brie.*
- 6) Why do not blind people skydive? *Because it scares their dogs.*
- 7) A horse walks into a bar. The bartender says, "Hey!" *The horse replies, "Sure."*
- 8) Why are crabs so bad at sharing? *Because they're all shellfish.*
- 9) What did the tie say to the hat? *You go on ahead. I'll hang around.*
- 10) How do you make a tissue dance? *Put a little boogie in it.*
- 11) Why didn't the skeleton go to the dance? *Because he had no body to go with.*
- 12) What do you call a religious person who sleepwalks? *A roamin' Catholic.*
- 13) Why did the tomato turn red? *It saw the salad dressing.*

Contributed by Augie Gray...

So many good sculptures (part 1) ...



Contributed by Doug Walker...

Wife;
"I have blisters on my hands
from the broom."

Husband;
"next time take the car, silly."



THE BEST WAY TO TEACH YOUR KIDS
ABOUT TAXES IS BY EATING 30%
OF THEIR ICE CREAM.

ATTRIBUTED TO BILL MURRAY



IF ROBBERS EVER BROKE
INTO MY HOUSE AND
SEARCHED
FOR MONEY,
I'D JUST
LAUGH
AND SEARCH
WITH THEM.



DespicableMeMinions.org



Why retirees are always so happy

www.yesemails.com



I think more about running
away now than I did as a kid,
but by the time I put my teeth in,
my glasses on and find my keys
I forget why I'm going.

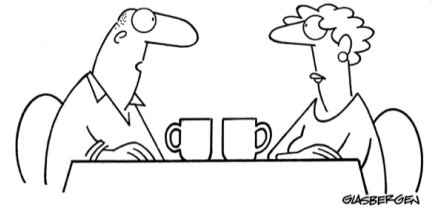


THANK GOODNESS YOU'RE HOME...



...THE CHRISTMAS TREE FAINTED.

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"I still love, honor and cherish you...but at my age,
I can't do all three at the same time!"



"Frankly, I don't enjoy prostate
exams any more than you do!"

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"I must be in the autumn of my life.
I feel like a pile of wet leaves."

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"If I don't go to the doctor, he can't find anything
wrong with me. That's how I stay healthy!"

I was visiting my DAUGHTER last night
when I asked if I could borrow a newspaper.

"This is the 21st century" she said. "We
don't waste
money on newspapers. Here, use my
iPad."

I can tell you this... that fly never knew
what hit him...

**Faceting Machine for Sale
Gemmasta GF4**

Includes lots of extra accessories

- 24 laps
- 3 handpieces
- 3 index wheels
- 45 dopsticks
- diamond powders

For a full list of items and price,
please email expressions of interest
to

bluedog50@optusnet.com.au

Local Adelaide pickup only

**Sierra Echo November Delta
Siera Hotel India Tango
Papa Alpha Papa Echo
Romeo**



Don't forget to wash your hands



Mineral boxes and flats for sale

Mineral box sizes

Sold in bundles of (10 for 100)

3.5 x 3.3cm.....	(\$1.50)	\$12.00
4 x 4cm.....	(\$1.50)	\$13.00
5 x 5.2cm.....	(\$2.00)	\$15.00
6.2 x 7.5cm.....	(\$2.50)	\$18.00
7 x 7cm.....	(\$2.50)	\$19.00
7 x 9.5cm.....	(\$2.50)	\$20.00
8.5 x 9.5cm.....	(\$3.00)	\$22.00
9.5 x 9.5cm.....	(\$3.50)	\$23.00
13 x 9.5cm.....	(\$4.00)	\$25.00
13 x 12.5cm.....	(\$4.50)	\$30.00

Flats sizes

395 x 265 x 50mm.....	\$2.50
400 x 270 x 75mm.....	\$3.50 NEW SIZE
398 x 290 x 98mm.....	\$4.00

Greg Vort-Ronald

0413796279 or luv2paint@iprimus.com.au

all boxes and flats are folded together, no staples required
(Prices subject to change)

- 2020 Australian Gem & Mineral Calendar: [Click here...](#)
- Adelaide Gem and Mineral Club: [Click here...](#)
- AFLACA-GMCASA: [Click here...](#)
- Australian Federation of Lapidary and Allied Crafts Association (AFLACA): [Click here...](#)
- Australian Lapidary Club Directory: [Click here...](#)
- Australian Lapidary Forum: [Click here...](#)
- Enfield Gem and Mineral Club Inc: [Click here...](#)
- Flinders Gem, Geology, and Mineral Club Inc: [Click here...](#)
- Gem and Mineral Clubs Association of South Australia: [Click here...](#)
- Gemcuts: [Click here...](#)
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