THIRD GENERATION • GEM JEWELLERS

Australian Opal Cutters & PEARL DIVERS

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History of Australian Opal

Throughout history the opal was the engagement ring gemstone of choice, as it was exceptionally rare and stunningly beautiful.

An important early description of opal is that of Caius Plinius Secundus, better known as Pliny the Elder, who lived in the first century AD.

Pliny wrote an extensive treatise entitled, Natural History. He describes opal as being:

> “Made up of the glories of the most precious gems, to describe them is a matter of inexpressible difficulty. For there is amongst them is the gentler fire of the ruby, there is the rich purple of the amethyst, there is the sea-green of the emerald, and all shining together in an indescribable union. Others, by an excessive heightening of their hues equal all the colors of the painter, others the flame of burning brimstone, or of a fire quickened by oil.”

Since the 1880’s Opal has been known as the *‘lucky gem from the lucky country’*, Opal is Australia’s National Gemstone and the Black Opal is the official NSW emblem.

Opal was held in great value by the Romans, a fact which is reflected in the well-known story of the Roman senator Nonius. He is said to have possessed a very fine opal about the size of a hazel nut, and valued at 20,000 sesterces. The stone was so beautiful that the Roman emperor demanded that Nonius hand over the opal (whether by purchase or gift is not recorded). Nonius himself held the stone in such high regard that he departed from Rome with his gemstone, leaving his wife, family and property behind him.

> “Genuine Natural Black Opal with a “named” pattern and Gem colour is the rarest, most precious gemstone on earth!”

Graeme Blaiklock
Chairman, Australian Opal Cutters P/L

For every 130 million carats of diamond produced only 1 million carats (or 200kg) of opal is mined. And from this rough the loss factor in cutting often above 95% (In black opal).

You may have heard that Tanzanite is 1000 times rarer than diamond. This is because there are 100 miles of tanzanite mines worldwide, and 100,000 miles of diamond mines. Tanzanite is therefore 1000 times rarer than diamond. As there is only 20 square miles of black opal mining black opal is actually 5000 x rarer than diamond.

Opal is a diminishing resource and there is anecdotal evidence of an increase of up to 25% per annum in boulder and black opal prices and 15% per annum increases in white and crystal opal. When you consider their genuine rarity there is much unrealised value in Opal as a gem. It has been suggested ALL opals are sold for much less than their true worth.

> “Historically the Opal was the engagement ring gemstone of choice, due to its exceptionally rare and stunning beauty.”

Our History

In 1967 Jack Musgrave Blaiklock began trading as a wholesaler throughout Australia and New Zealand with his son Graeme Blaiklock. In those years Graeme 'cut his teeth' as a wholesale jewellery sales rep. Many of the principles and strategies employed by Australian Opal Cutters began there.

In the early 1970's Graeme started a thriving company which for many years has traded very successfully. The company is now managed by his son Jason.

Today Australian Opal Cutters is an internationally recognized brand with customers from almost every nation on earth! Australian Opal Cutters source opals directly from the miners and then cut and set opals in contemporary jewellery designs. As Australian Opal Cutters manufacture jewellery (and cut out the middleman) they are able to offer excellent product at competitive prices.

Over the past 40 years Australian Opal Cutters has built exclusive and synergistic relationships with opal miners from all of Australia's opal fields and are providers of arguably the largest collection of opal in Australia. The company has thirty to forty vendors on the road, throughout the world, at any given time!

When a miner is "on opal" (he has hit a patch of "potch" or "opal with colour") He usually wants to cash out very quickly so he can pay his bills and keep mining.

So the opal miner calls Australian Opal Cutters, because he (or she) knows that Australian Opal Cutters is one of the few companies that take risks and are willing to buy the whole "mine run parcel" of "rough" opal or "rubs."

Statistically our "yield" will be one "kingy" out of 10000 opals cut and polished. Many more however will not pass the "rub test" (on a course grit diamond wheel). Even rough opal that shows potential may not "face up" or produce a coloured surface when cut.

The goal is a full face of colour, or a full face of colour with a pattern. Rarer still is a "named pattern" and the rarest of all are "picture stones" and "fossils with colour".

> "The Noble Opal is the National Gemstone of Australia, The Lucky Gem from the Lucky Country"

In the 1920's Opal was the engagement ring gemstone of choice (not Diamond) . It is alleged that the Diamond cartel De beers, attempted to discredit opal by hiring a novelist named Sir Walter Scott to write a novel about the Queen of Spain who, had a run of bad luck after being given an opal! The story turned out to be a best seller. De Beers then purchased highly productive opal mines in Hungary and shut them down claiming that the opal "had run out".

Harlequin Pattern

The Harlequin Pattern in Gem Black Opal is exceptionally rare. Only 0.000001% of the top gems are graced with this exquisite and rarely formed pattern. A phenomenon of creation leads to billions of perfectly aligned molecules that form elongated colour units as the white light is split with a surgeons precision into the colours of the spectrum. Very rarely do they form into a pattern that reflects harlequin squares.

Opal is the only gemstone that has this unique and valuable quality, where white light is actually split into a rainbow, and then the rainbow is “trapped” inside the gemstone. In fact Opal is the only gemstone on earth where you can “hold a rainbow in your hand”.

Holding a Rainbow in your hand

Have you ever held a rainbow in your hand? Opals are the only gems on earth that 'capture' rainbows, literally!

A rainbow in the sky is formed because water molecules are trapped in air. In Opal the water molecules are trapped in-between silica molecules. So Australian Opal does the same thing as a rainbow except the water is stationary rather than moving. Every other gem depends on faceting chemicals inside the gem to generate colours.

Opal is the only gemstone that has the unique and extremely valuable quality of actually splitting white light into a rainbow. Rainbows are quite literally "trapped" inside the microscopic water molecules within the gemstone.

The Australian opal fields were once an inland sea. As the ages passed and the seas receded, sea creatures were isolated and marooned and some opalised. Eventually the area dried out completely and is now desert country. In time the ground waters, holding silica solution, also evaporated (with some artesian springs still active deep "underground").

Opal is formed as water runs down through the earth picking up silica from sandstone. This silica-rich solution is then carried into cracks and voids, caused by natural faults or occasional decomposing fossils. As the water evaporates, it leaves behind a silica deposit. The deposit eventually hardens to form common opal, and in rare circumstances it forms precious opal, with an array of molecules that look like a shoebox filled with symmetrical rows of table tennis balls. The balls represent silica molecule clusters and the gaps between them

Black Opal Valuation

The type, colour, size of precious Opal are factors that determine the price paid for the gemstone. The price is based on the quality of the Opal and expressed per carat. Furthermore, there is a marked difference between the value of uncut Opal compared with the value of cut and polished Opal. Characteristics such as the variety, background, transparency, spectrum, tone, origin, distribution, inclusions, carat weight etc. all add to determining the correct value of the Opal itself.

The clarity of the colour is critical when assessing the value of Opal. Red fire is the rarest colour, followed by green/orange, green/blue and blue. Therefore red fire Opal is generally more valuable than a predominantly green Opal, which in turn is more valuable than a stone showing only blue.

A brilliant blue/green can cost more than a dull red; bright twinkling stars of a 'pin fire' pattern can cost more than a cloudy open pattern of similar colouration; or a brilliant, lustrous light Opal can cost more than a lack-lustre black Opal.

Valuing Opal is extremely complex! Forget the "4 C's" Opal requires the detailed examination of over 13 characteristics to assess value: Variety, Body Tone, Brightness, Transparency, Colour, Hue, Outline or Shape, Profile or Cut, Pattern, Display (Directional or Multidirectional), Distribution of colour (%), Inclusions/Clarity and Carat Weight.

Using the "Miner's Test" you can know if your Opal has true "gem colour". Simply take your Opal out of the bright light and just "cup" it in your hand to shade it slightly. If you see red "fire" or green "fire" you will know that you have an authentic gem!

The 13 Characteristics of Opal Valuation

Genuine Natural Australian Black Opal with a "named" pattern is the rarest, most precious gemstone on earth. Opal is an incredibly unique Gem, scintillating with all of the colours of the rainbow in a manner that is a result of an inner perfection, actually forming rainbows (literally) internally

There are 13 characteristics that must be considered when assessing the value of an opal. Each of these characteristics can have a substantial effect on the final value of the item. Failure to consider one characteristic can render an appraisal invalid, or a mere 'opinion'

1. "What is an Opal variety?"
While Crystal Opal can be found in all of the Opal fields White Opal is predominantly found in Coober Pedy (in South Australia). Boulder Opal from Queensland, and Black Opal is found in Lightning Ridge in North West NSW. The variety or "type" of Opal is the first factor we consider.

2. "What is the Background colour or 'Body Tone'?"
The "N-Scale" or the body tone chart reflects the amount of Iron Oxide (for Black Opal) or Magnesium Oxide (for White Opal) that is present.

3. "How bright is the Opal
The "fire" in the Opal is appraised in the 'brightness'.The "miners test" is when an Opal is removed from the direct showroom light and held within the slightly cupped hand. .."gem fire" will often look "brighter in the shade"

4. "What is the Opal Transparency?"
This characteristic is especially important when appraising Crystal Opal or White Opal. The more transparent a Crystal Opal, the more valuable it is.

5. "What is the main 'spectral-colour' combination?"
Opal is the only gem that naturally captures and displays rainbows (literally). The Colour mix, variation and palette is defined in this category.

6. "How Saturated is the 'tone' or 'hue' of the colour?"
The infinite variations, and intensity of the subtle shades of colour

7. "What is the shape of the Opal?"
This quite simply is the 'shape' of the Opal.

8. "What is the profile of the Opal?"
There is a variation in the height of the cut of each Opal. This will depend on the colour bands in the rough opal and the skill of the Opal cutter. The Cabachon (a French word meaning "Bald Head") is a sought after cut.

9. "What is the Opal Colour Pattern?"
The characteristic that most affects value. To give an example, to find a genuine "Harlequin" pattern you would (quite literally) have to look through 1 Million Opals, even then there would be no guarantee of finding one.

10. "What 'directionality' does the Colour show?"
Opal colour "scintillates" which means that the colour "moves" with the Opal. Because of this the "Display" or the "Presentation" of the Opal must be considered from all angles. The aim is for the Opal to have some colour from any angle or direction.

11. "What percentage of the face shows colour?"
Boulder Opal will often display 'Ironstone' in the actual face of the Opal.

12 What percentage of the face shows inclusions?"
It is vital not to confuse 'inclusions' with 'crazing'.

13. "Weight" The final category is the 'weight' and this is measured in carats.

The formulas that have been agreed by the Opal Industry bodies responsible for the Smart Chart attribute graded values through all of the above categories. It is vital to assess every aspect (not just the colour and weight) to arrive at a true value.

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Australian Opal Cutters Warranty Policy

To ensure you are completely satisfied, as part of Australian Opal Cutters' customer service policy we will gladly repair goods, replace goods or refund the cost of the goods, at no cost to you, for defects in materials or workmanship faults for up to 2 years from the original date of purchase. Our liability under this warranty is subject to Australian Opal Cutters master jeweller, who has extensive knowledge and experience with jewellery, being satisfied that a defect was caused by defective materials or workmanship faults, and was not caused by, or substantially contributed by other factors, or circumstances beyond our control, including (but not limited to), repair works carried out by a jeweller other than us, accidental or malicious damage, or any neglect or misuse of the goods.

We also offer a lifetime customer service warranty, which includes free polishing, gold and rhodium plating for life. Also, if your jewellery does need repair our policy is "at cost - for life", that means that you can have basic repairs completed for a little more than the cost of postage!

Graeme Blaiklock
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Black Opal Patterns

Patterns in opal are very important. There are numerous "named" patterns; 'pinfire', 'broad-flash', 'harlequin', 'rolling-flash' and 'mackerel' just to name a few.

This is where the molecular structure is *so perfect* it provides a repetitive display creating a pattern. These patterns are very rare and something to look for when you purchase on opal.

The opacity and 'darkness' (N1 Scale) of the base tone of a black Opal is a complex element that may dramatically affect the value. The base tone is a result of the amount of oxide within the hydrated silica and a deep black tone acts like a *'thundercloud behind a rainbow'* which causes the diffraction of white light into the colours of the spectrum to appear far more vivid and intense than with light opal base tones. This stunning beauty, combined with the incredible rarity makes deep black opals far more valuable.

The Harlequin Pattern in Gem Black Opal is exceptionally rare. Only 0.000001% of the top gems are graced with this exquisite and rarely formed pattern. A phenomenon of creation leads to billions of perfectly aligned molecules that form elongated colour units as the white light is split with a surgeons precision into the colours of the spectrum. Very rarely they form into a pattern that reflects harlequin squares. This is truly "God's Art".

"You may find evidence of sand on the back of a black Opal gem. This is intentional! the presence of a sand spot is the "signature" that guarantees that the Opal is genuine and natural."

Graeme Blaiklock
Chairman, Australian Opal Cutters P/L

Taking Care of Opal

On the Moh's hardness scale, opal is around 6.5. Not as tough as diamond but certainly easy enough to take care of. Common sense and knowledge about your opal is all you need in order to know how to take care of your opal, so it can still be enjoyed by your decendants.

Just like any other gemstone, opal should be stored separately to your other stones and should be taken off when gardening, washing up, working out etc. to avoid damage.

They can be polished with a soft toothbrush or a cloth to maintain their finish and even a little toothpaste with water can restore the opal to its original brilliance. (Toothpaste contains talc which is a very light polishing agent).

Solid opals have a 6% and, like every other gem (including Diamonds) harsh chemicals, extreme temperatures and direct 'knocks' on hard surfaces can chip, crack or damage your gem.

The cause of damage to most jewellery occurs in jewellery bags, cases and handbags! When gems (diamonds, Pearls, Opals and Sapphires) are all "mixed in" with silver and gold any movement causes these gems and metals to scratch against eachother, causing chips scratches and marks!

Separating all of your gems and jewellery into individually wrapped pieces of jewellers polishing cloth will prevent this and lengthen the lifespan of your much loved jewellery treasures!

Boulder Opal Formation

Boulder Opal forms differently from other Opals, forming inside an ironstone concretion. The Opal forms in generally elongated or ellipsoidal ironstone concretions or boulders, from a few centimeters, to up to 3 m across. The boulders may be confined to one or more layers or randomly distributed through the weathered sandstone.

The Opal occurs as a filling or lining between the concentric layers or in radial or random cracks in the ironstone.

The Opal first flowed through the cracks of the boulders in liquid form thousands of years ago. With the passing of centuries the liquid material formed into solid Opal with Opal cutters now cutting these pieces into magnificent gems with the natural rock left on the back. Due to the dark backing provided by the ironstone, Boulder Opals generally have a dark body tone which leads to a vibrancy of colour similar to that found in Black Opals.

Boulder Opal generally is left in its individual shape and size it is found in, in comparison to the normal round and oval Opals to highlight their individual beauty and to avoid unnecessary colour wastage.

With all Opal mines slowly running out Boulder Opal is the only Opal that has been estimated to run out within the next 5 to 10 years. The reasons for this are because of native land titles in the Queensland Area and the increased damages being caused to the environment in order to mine Boulder Opal, meaning high cost of rehabilitating claims.

For every 50 tonnes of dirt removed when mining Boulder Opal only one carat of fine Boulder Opal can be found. Because of environmental concerns the government now requires the miners to rehabilitate the area which is proving to be a very expensive process.

However it's not all bad news because these things together with limited supply of Boulder Opal are actually increasing the value by 25 % every year for at least 10 years in a row so needless to say Boulder Opal makes a sound long term investment.

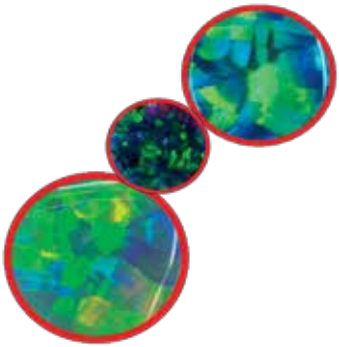
Holding a Rainbow in your hand

You have never held a rainbow in your hand, until you hold an Opal! Opals are the only gems on earth that “capture” rainbows, literally!

A rainbow in the sky is formed because water molecules are trapped in air. In Opal the water molecules are trapped in-between silica molecules. So Australian Opal does the same thing as a rainbow except the water is stationary rather than moving. Every other gem depends on faceting or chemicals to generate usually only one colour.

The Australian Opal fields were once an inland sea. As the ages passed and the seas receded, very rarely some sea creatures were isolated and marooned, and opalised. Eventually the area dried out completely and is now desert country. In time the ground waters, holding silica solution, also evaporated with some artesian springs still active deep “underground”.

Opal is formed as water runs down through the earth picking up silica from sandstone. This silica-rich solution is then carried into cracks and voids, caused by natural faults or sometimes even decomposing fossils. As the water evaporates, it leaves behind a silica deposit. The deposit eventually hardens to form common Opal, and in rare circumstances it forms precious Opal, with a diffraction grating, this very rarely occurring array of molecules that diffracts (bends and splits) light into the colours of the spectrum in patterns that amplify the minute structure of the array. Best described as when seen under an electron scanning microscope as looking like a shoe-box filled with symmetrical rows of table-tennis balls. The balls represent silica molecule clusters and the gaps between the clusters, water molecules. Gaps just large enough to allow the passage of the light beam.



> “Boulder Opal with a pattern is in my humble opinion the rarest Gemstone on Earth……and with a Harlequin Pattern is arguably rarer than Red Diamond!
>
> **Graeme Blaiklock**
> Australian Opal Cutters Pty Ltd Chairman.

Harlequin Pattern

Patterns in Opal are very important. There are numerous “named” patterns; pin-fire, broad flash, harlequin, rolling mackerel just to name a few.

This is where the molecular structure is so perfect it provides a repetitive display creating a “pattern”. These “patterns” are very rare and something to look for when you purchase an Opal.

The translucence of a Crystal Opal often gives it a greater clarity and vibrancy of colour than an opaque Opal. Pale coloured Crystal Opals (White Crystal Opals) are generally more valuable than opaque white opals, and ‘Black Crystal Opals’ can often have more beautiful colour than opaque Black Opals.

When cutting light Opal we yield 50% which means we only have a 50% loss factor due to rock waste.

The Harlequin Pattern in Gem Black Opal is exceptionally rare. Only 0.000001% of the top gems are graced with this exquisite and rarely formed pattern. A phenomenon of creation leads to billions of perfectly aligned molecules that form elongated colour units as the white light is split with a surgeons precision into the colours of the spectrum. Very rarely do they form into a pattern that reflects harlequin squares.

The Royal Connection

On a recent visit to Sydney of members of the Royal family, Australian Opal Cutters have had the privilege of presenting to the House of Windsor no less than four handcrafted pieces. To celebrate the recent wedding of Kate Middleton and Prince William, the Australian Monarchist League commissioned a stunning handmade pendant with Australian South Sea Pearl in 18k white gold with golden sapphires for Kate and for William, some incredible South Sea Pearl cufflinks in 18k white gold with vibrant blue Australian Sapphire surrounds.

Previously commissioned pieces for dignitaries include HRH The Duchess of Cornwall, HRH The Duke of Cambridge, HRH the Duchess of Cambridge and Prince Charles, Prince of Wales as well as Denmark's Crown Princess Mary

Boulder Opal 'splits' are exceptionally rare as a fissure must be in place that allows the boulder Opal 'split' to 'naturally' separate in the cutting process. The result is two almost identical halves.

The beautiful Boulder Opal Split (pictured above) was presented to HRH Prince William on the occasion of His recent visit to Sydney. With this gift the 'Royal Connection' has been permanently established with one half residing in the Australian Opal Cutters Sydney store and the other half at Kensington Palace.

"The two halves that complete this beautiful gem pair of large boulder Opals not only represent Australia's National Gemstone and the official NSW State Emblem but gloriously reflect the strength of our Commonwealth partnership and the benefits of our shared history, and although they will be separated geographically with one half in Kensington Palace and the other here at Australian Opal Cutters, they will continue to symbolise our unity of purpose and shared rich democratic destiny housed in our Westminster System of Government that works so well.

Graeme Blaiklock
Chairman, Australian Opal Cutters P/L

Boulder Opal Valuation

The type, colour, size of precious Opal are factors that determine the price paid for the gemstone. The price is based on the quality of the Opal and expressed per carat. Furthermore, there is a marked difference between the value of uncut Opal compared with the value of cut and polished Opal. Categories such as the variety, background, transparency, spectrum, tone, origin, distribution, inclusions, carat weight etc. all add to determining the correct value of the Opal itself.

The clarity of the colour is critical when assessing the value of Opal. Red fire is the rarest colour, followed by green/orange, green/blue and blue. Therefore red fire Opal is generally more valuable than a predominantly green opal, which in turn is more valuable than a stone showing only blue colour.

However, brilliance and clarity of an open proportioned pattern are the main decision makers. A brilliant blue/green can be more valuable than a dull red; bright twinkling stars of a 'pin fire' pattern can be more valuable than a cloudy 'open' or 'mixed' pattern of similar colouration; or a brilliant, lustrous light Opal can cost more than a lack-lustre Black Opal.

Valuing Opal is extremely complex! Forget the "4 C's" Opal requires the detailed examination of over 13 characteristics to asses value:

Variety, Body Tone, Brightness, Transparency, Colour, Hue, Outline or Shape, Profile or Cut, Pattern, Display (Directional or Multidirectional), Distribution of colour (%), Inclusions/Clarity and Carat Weight.

However if you just remember the "Miner's Test" you can know if your Opal is a true gem. Take your Opal out of the bright light and just "cup" it in your hand to shade it slightly. If you see red "fire" or green "fire" you will know that you have an authentic gem colour!

White Opal Patterns

Patterns in opal are very important. There are numerous “named” patterns; ‘pinfire’, ‘broad-flash’, ‘harlequin’, ‘rolling-flash’ and ‘mackerel’ just to name a few.

This is where the molecular structure is *so perfect* it provides a repetitive display creating a pattern. These patterns are very rare and something to look for when you purchase on opal.

The translucence of a crystal opal often gives it a greater clarity and vibrancy of colour than an opaque opal. Pale coloured crystal opals (white crystal opals) are generally more valuable than opaque white opals, however accurately valuing an Opal requires assessment of over 13 characteristics!

The Harlequin Pattern in Gem Black Opal is exceptionally rare. Only 0.000001% of the top gems are graced with this exquisite and rarely formed pattern. A phenomenon of creation leads to billions of perfectly aligned molecules that form elongated colour units as the white light is split with a surgeons precision into the colours of the spectrum. Very rarely they form into a pattern that reflects harlequin squares. This is truly “God’s Art”.

White Opal Valuation

The type, colour, size of precious opal are factors that determine the price paid for the gemstone. The price is based on the quality of the opal and expressed per carat. Furthermore, there is a marked difference between the value of uncut opal compared with the value of cut and polished opal. Categories such as the variety, background, transparency, spectrum, tone, origin, distribution, inclusions, carat weight etc. all add to determining the correct value of the opal itself.

The clarity of the colour is critical when assessing the value of opal. Red fire is the rarest colour, followed by green/orange, green/blue and blue. Therefore red fire opal is generally more valuable than a predominantly green opal, which in turn is more valuable than a stone showing only blue colour.

However, brilliance and clarity of an open proportioned pattern are the main decision makers - a brilliant blue/green can cost more than a dull red; bright twinkling stars of a 'pin fire' pattern can cost more than a cloudy open pattern of similar colouration; or a brilliant, lustrous light opal can cost more than a lack-lustre black opal.

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However if you just remember the "Miner's Test" you can know if your opal is a true gem. Take your opal out of the bright light and just "cup" it in your hand to shade it slightly. If you see red "fire" or green "fire" you will know that you have an authentic gem!

Black opal has black or grey iron oxide as a base colour. The potch (common opal base colour) is a non-precious form of opal exhibiting no play of colour. This is where the name Black opal comes from but an opal such as this with no colour is worth very little. It is our job as opal professionals to search for the 'colour bar.'

The rarest black opals are known and loved for their vibrant colours often with all the colours of the rainbow and the colour is generally found as a colour bar (or bars) of various colours.

Black opal and Boulder opal are the rarest of all opals found, amounting to only 10% of all opal mined.

When black and boulder opal are cut the yield is only 5% which means a loss factor of 95%

Light Opal Discovery

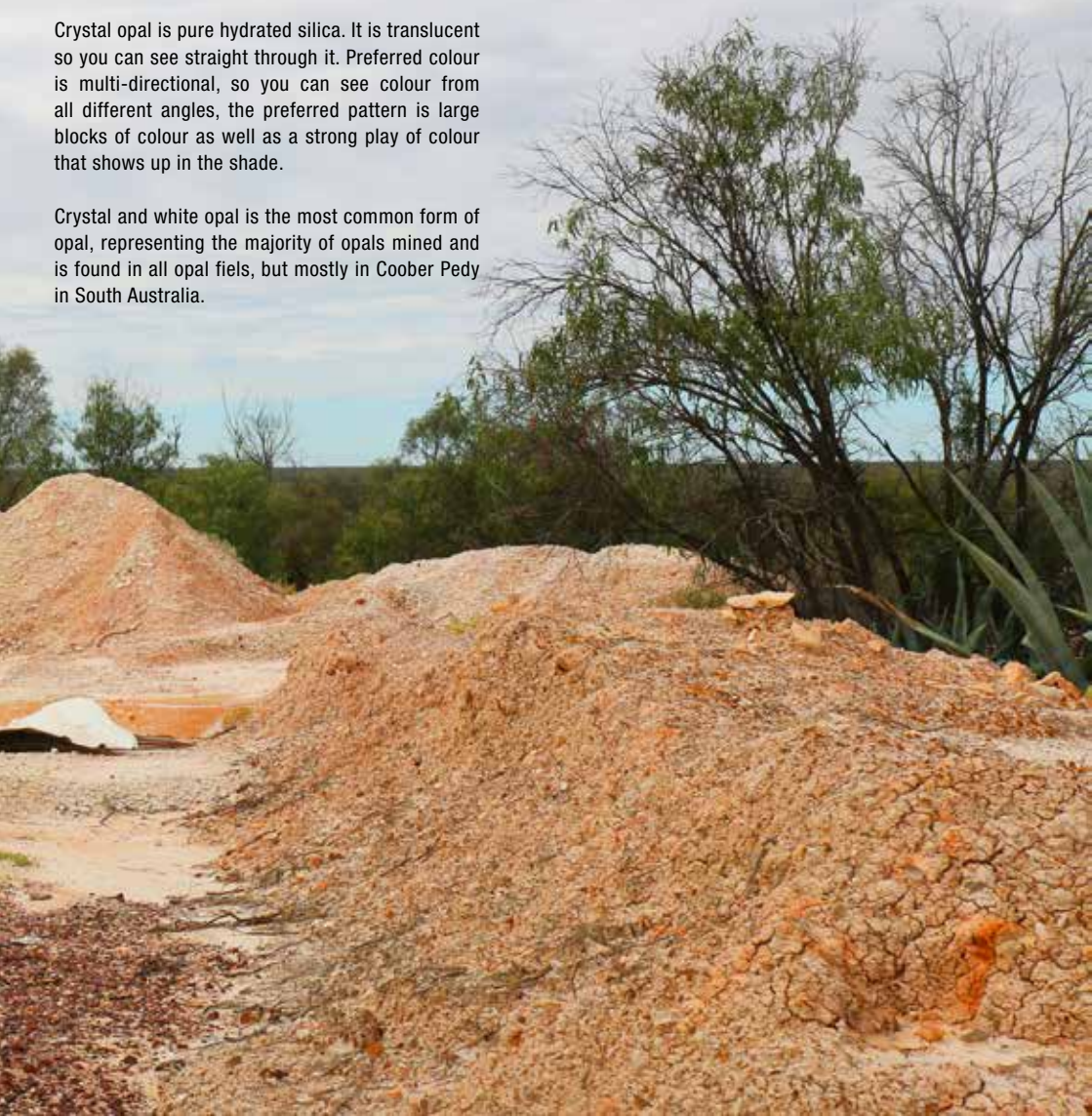
Coober Pedy was discovered in 1915, this is where most of the white and crystal opals come from. These are commonly referred to as “light opals.”

The name “Coober Pedy” is an aboriginal word that translates; “man in hole.”

The white Opal and crystal opal are the most common solid opal types, with the whole opal retaining its lovely milky white colouring from magnesium oxide. The appearance is like a rainbow among white cumulus clouds.

Crystal opal is pure hydrated silica. It is translucent so you can see straight through it. Preferred colour is multi-directional, so you can see colour from all different angles, the preferred pattern is large blocks of colour as well as a strong play of colour that shows up in the shade.

Crystal and white opal is the most common form of opal, representing the majority of opals mined and is found in all opal fiels, but mostly in Coober Pedy in South Australia.



Fossilized Opal

The formation of opal fossils began when marine life was buried below sand and silt at the bottom of the inland sea which covered much of southern and eastern Australia thousands of years ago. When the marine life decayed after many years below the earth's surface it left cavities that were later filled with the silica rich waters from the inland sea that produced today's fossil opal. Shells of stranded marine creatures, prehistoric animal bones and even stems of plants have been left opalised. Fossil replacement: Many opals have been found in Lightning Ridge becoming known as Black Opal fossils.

The fossils are usually exact replicas of plant, shell or bone material, and at times they are comprised of gem quality black opal, which is more valuable than pink diamonds and more beautiful. Lightning Ridge fossils are three-dimensional replicas of ancient organic objects, transposed into nonprecious potch or precious opal. Paleontogigists world wide covet these rarities which allow then to 'see into' fossils.

In those that are pseudo morphs, the silica has filled a simple cavity or void, like jelly in a mold, so that only the basic shape and perhaps the surface texture are preserved. However, many specimens are replacement fossils, in which intricate internal structures have been preserved by chemical alteration before the cavity was filled by the silica solution.

Although the transformation to silica has destroyed biomolecular evidence, marrow tissue, blood vessels, capillaries and nerve channels may be perfectly preserved. If the potch is transparent, these features are clearly visible below the surface in opalised bones. A surprising aspect is the opalisation of delicate materials like leaves and even dinosaur skin.

Some pieces resemble coprolites, reptilian armour scutes or heavy scales; very occasionally, bone specimens show remnants of tendons or cartilage.

Rainbows are a phenomenon that hold a special place in the history and imagination of humankind. They are universal, occuring on every continent and culture throughout recorded history.

Water, light and air are undoubtably the earths most precious resource. Water constitutes +70 % of all cells and organisms, and without which life is impossible.

When a rainbow occurs in the sky the unique combination of water, air and oxygen work together to suspend the microscopic water molecules in air, split light into the colours of the spectrum

In extremely rare instances these same water molecules enter the earths soil and actually bond with the underground Silica to forms an incredubly rare and unique gemstone **Opal**.

Science still cannot explain this miraculous transformation. The water molecules are suspended and unable to evaporate (or disperse) forming microscopic rainbows inside the gemstone.

This is the only place on earth where 'literal' rainbows form inside the gemstone. Other gemstones depend on faceting (diamonds) or chemical impurities (Ruby, Emerald, Sapphire) or treatment processes (Korite) to stabilise rainbow colours formed by various internal chemical elements.

Coverted by the ancient Romans as a 'Lucky" talisman that could protect a soldier in battle, Opal is the most valuable commercially available Gemstone on the planet!

In the 1700's Opal was the engagement ring of choice. In the 1800's De Beers allegedly commissioned a book by Sir Walter Scott that discredited Opal and helped establish Diamond as the engagement ring gemstone of choice.

Today Opal is today known as "*the lucky gem*".

Opal have a 'fingerprint" and just as your fingerprint is absolutely unique no two Opals are exactly alike.

Many Opal are actually formed from dinosaur fossils Plesiosaurs, Belemanites, pterosaurs, plant species and crustaceans.

Opal is the perfect gift as the rainbow holds a promise for all who are furtunate enough to hold one.

> My heart leaps up
> when I behold,
> A rainbow in the sky;
> So was it when
> my life began..
>
> Henry Wadsworth Longfellow

> [Opal] Made up of the glories of the most precious gems, to describe them is a matter of inexpressible difficulty. For there is amongst them the gentler fire of the ruby, there is the rich purple of the amethyst, there is the sea-green of the emerald, and all shining together in an indescribable union. Others, by an excessive heightening of their hues equal all the colours of the painter, others the flame of burning brimstone, or of a fire quickened by oil.
>
> Pliny The Elder 1st Century A.D.

Opal rainbows are varied with a myriad of different 'named' patterns and recognised shapes and hue structures. Some are sriking in their individuality, unique and original. Others are just fascinating in their depth and complexity.

The ***Rolling Flash*** (1) is where the colour 'rolls' across the pattern. This pattern can occur in combination with any or all of the other patterns in one Opal. The ***mixed*** pattern (2) for example combine elements from ***chaff, pinfire, flash*** and ***sheen*** patterns in a play of colour that eclipses the greatest modern artists ever known!

(3) the ***Pinfire*** pattern in a miraculous display of molecular consistancy the Opal colours literally form 'galaxies' within the Opal. When the pattern becomes exceptionally fine it is recognised as ***moss*** pattern.

The ***Palette*** (4) pattern is related to harlequin and can contain flashes of gem "fire" in any colour of the spectrum. ***Chaff*** (5) can contain 'blocks' of colour as well as ***straw*** or ***grass*** pattern elements. ***Feather Patterns, multi-flash*** or ***'veined'*** (6) display radiating patterns from a starting point within the gem.

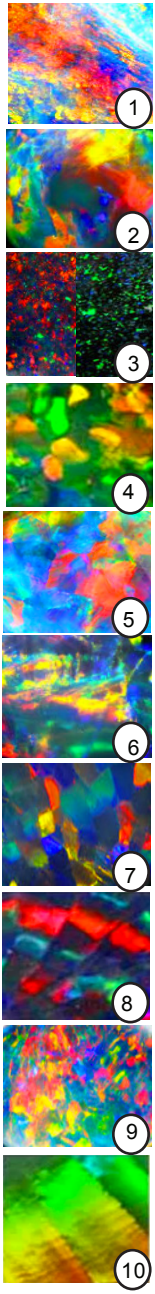
In a ***Harlequin Pattern*** (7) the blocks of colour form recognisable square, trapezoid, rhomboids and diamonds. The ***chequerboard harlequin*** is arguably 5000x Rarer than diamond. Opals may also display very small blocks of colour in what is known as the ***jig saw*** pattern.

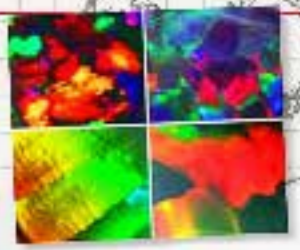
(8) Sheen, Mackeral ***Flagstone Harlequin, Peacock, Mackeral,*** or ***Ribbon*** patterns display a repeated pattern along defined bands 8

The ***Floral*** (9) pattern is repetitive yet freeform and (with all patterns) can occur in any cobination of hues and tones. Micro elements of the Opal can display 10 the (e) ***sheen*** pattern has an irridescent metallic appearance.

The variations in these pttern combinations is what makes each Opal absolutely unique. Many Opals hide ***Pictures*** that you may discover Opal *(these are exceptionally valuable)*.

Share a Rainbow. the promise of hope!





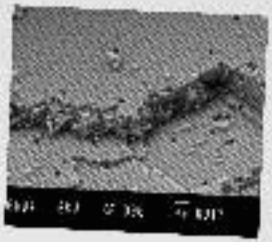
Opal Doublets

A doublet is a thin layer of crystal Opal with a layer of 'potch' (Black common Opal) or ironstone on the back which acts to bring out the colour of the Opal.

Opal Doublets use material with the same "co-efficient of expansion". This means that the layers will expand with heat together and contract with cold together. This is a 'fail-safe' against de-lamination. The colour display of our Opal Triplets and our Opal Doublets is determined by the quality of the rough Opal used to make them.

> "Our doublets and triplets are guaranteed for life against delamination (layer separation)"

The search for suitable rough Opal is ongoing and it is always a challenge to find the top gem Opal required to produce the stunning colour and pattern found in our "A" grade Opal Doublets and Triplets.



Opal Triplets

An Opal Triplet is a doublet with a crystal quartz cap on the top (which acts to magnify and enhance the colour of the Opal) giving it a strong and protective "cap". The lifetime guarantee applies to our Opal triplets because they have 3 silicates with identical coefficients of expansion so they will not delaminate.

The domed quartz crystal cap has a higher 'refractive index rating' which makes the triplet look incredible yet costing less than 1/30th the price of a 'solid' black Opal of the same size and colour!

Taking Care of Opal

On the Moh's hardness scale, opal is around 6.5. Not as tough as diamond but certainly easy enough to take care of. Common sense and knowledge about your opal is all you need in order to know how to take care of your opal, so it can still be enjoyed by your decendants.

Just like any other gemstone, opal should be stored separately to your other stones and should be taken off when gardening, washing up, working out etc. to avoid damage.

They can be polished with a soft toothbrush or a cloth to maintain their finish and even a little toothpaste with water can restore the opal to its original brilliance. (Toothpaste contains talc which is a very light polishing agent).

Solid opals have a 6% and, like every other gem (including Diamonds) harsh chemicals, extreme temperatures and direct 'knocks' on hard surfaces can chip, crack or damage your gem.

The cause of damage to most jewellery occurs in jewellery bags, cases and handbags! When gems (diamonds, Pearls, Opals and Sapphires) are all "mixed in" with silver and gold any movement causes these gems and metals to scratch against eachother, causing chips scratches and marks!

Separating all of your gems and jewellery into individually wrapped pieces of jewellers polishing cloth will prevent this and lengthen the lifespan of your much loved jewellery treasures!

Our Guarantee

To ensure you are completely satisfied, as part of Australian Opal Cutters' customer service policy we will gladly repair goods, replace goods or refund the cost of the goods, at no cost to you, for defects in materials or workmanship faults for up to 2 years

We also offer a lifetime customer service warranty, which includes free polishing and restoration to *"as new"* for life. Also, if your jewellery does need repair our policy is "at cost - for life", that means that you can have basic repairs completed for a little more than the cost of postage!

Graeme Blaiklock
Chairman. Australian Opal Cutters P/L