

A 1 GEM Deposits of the World

They can be found in almost all countries but some areas are rich in both quantity and Variety such as Brazil and Burma

Single Gem species such as Emerald can be found in Colombia.

Diamonds can be found in South Africa and also in Botswana

The UK is known for Smoky Quartz, Jet in Whitby and Blue John can be found in Derbyshire.

A 2 What is Rock

Igneous Rock: Is formed from cooling Magma such as Basalt, Granite, Obsidian etc.

Sedimentary Rock: Is formed from weathered and eroded Igneous rock: Limestone, Sandstone & shale

Metamorphic Rock: Is formed deep underground by pressure and heat: Gneiss, marble, slate

All 3 types are repeatedly changing into each other

A 3 The Origin of Gem Minerals

Rocks and minerals reach the surface through mountain building

Or upwelling Magmas (10)

Diamonds form in depth of 200 km at 1200 degrees

Once at the surface weathering processes break down the rocks and release gem minerals when can then be found in streams, sands and gravels.

Magma fluids getting to the surface may interact with ground water and cause conservable movement of material.

B Where Gemstones are used

For many centuries in Crown Jewels

Early handwritten books like this Codex from 1020 were decorated with jewels and precious metals

In Religious artefacts like this turquoise Aztec mask of their god

20th century gold jewellery decorated with seed pearls pearls and amethysts.

Faberge carvings from Jasper, quartz

For vibrational healing

The frequency in minerals is used for time keeping in Quartz watches

C Gemstone Classification

January Garnet	July Ruby
February Amethyst	August Peridot
March Aquamarine	September Sapphire
April Diamond	October Opal
May Emerald	November Topaz
June Pearl	December Turquoise

Hardness

The Mohs scale counts from 1-10 The diamond is 40 times harder than the softest Quartz and Topaz are at 7 & 8 and can scratch each lower number.

Colour

Stones are coloured by a range of metal impurities

Chrome ----- red, copper----- blue and green

Cutting and polishing

A skilled Lapidary can turn a rough pebble into a sparkling Gemstone

Stones of similar colour are often difficult to identify like these black stones some people carry them for protection from electro-magnetism like Tourmaline and Shungite from Russia

D Diamonds

The diamond is the hardest of all minerals combined with its exceptional lustre it gets its brilliance. It is formed from Carbon 200 km underground at 1200 C .

It is the most intensely mined and carefully graded of all minerals.

Truly colourless diamonds are rare most are tinged with yellow or brown impurities.

Older diamonds are usually rose cut whilst modern one's are brilliant cut.They are polished and cut with powdered diamonds.

For 2000 years they were found in river gravels and India was the main supplier

South Africa started mining in Kimberley in 1867 but very large diamonds are also found in Botswana and other places. They can be worth 50 million pounds

They are then cleaved and ground into precious jewels

Diamonds are graded into 4 C,s

Colour –Clarity—Cut – Carat weight

Famous Diamonds

Koh-i-nor Crown Jewels

Green diamond bought by Frederick Augustus of Saxony in 1743.

Hope diamond now in the Smithsonian Inst.Washington.

It originated in India

E Sapphire Ruby and Emerald

The beauty of Rubies and sapphires lies in the richness

And intensity of their colours

They are often mined from river gravels

Some people give them positive attributes and say that they might bring you prosperity unless you are already prosperous to be able to afford them

Some famous Emeralds

They are primarily mined in Colombia

The biggest Emeralds can be seen in the Topkapi Palace Turkey where they are part of a magnificent 18th century Dagger.

Emeralds are supposed to promote harmony, Joy and friendship

I inherited an emerald ring with rose cut diamonds but none of the women folk in my family have even worn it.

Rings

A selection of very expensive rings but when I was a dealer, I could never afford them

What was popular were star set diamond gipsy rings as well as cameo and snake rings

F Other Gemstones

Peridot is one of my favourite gemstones, it might increase happiness It is often combined with seed pearls and almadine garnets

Bohemian Red Garnets are very popular especially in Germany

There are also Almadine Garnets, but green ones are very rare.

Amethysts The natural abundance and variety of quartz make it one of the most widely used of all Gem minerals.

Tourmaline appears in a wide range of colours

Other Gemstones are

Topaz

Spinel

Peridot

Zirkon which appears in various colours

Transparent ones are often used in place of Diamonds

G Opal

Appears in two distinct varieties, the precious Opal and the common opal.

The precious displays the rainbow iridescence which is highly prized

Australia is the principal source for black and white opal

Opals are usually cut as cabochons; the stone is fragile and is backed in the form of doublets. It is fairly soft and scratches easily.

H Quartz, Agate and Jasper

Agate and Jasper are the Chameleons of the Gem world and

Appear in a variety and patterns.

Jasper consists of interlocking quartz crystals and contains large amounts of colourful impurities.

Jasper is used for carvings and inlays and nowadays often comes from Brazil and Uruguay

See Faberge's wonderful carvings

I Carnelian

It is a brownish red mineral and classed as a semi-precious Gemstone. It is coloured by impurities of iron oxide and often used for signet rings like mine.

It shows the family crest and has an inscription in Latin

Respice Finem

Meaning Whatever you get into think of the outcome

It has served me well as I am a fairly cautious person

The Root Chakra is also quite interesting.

J Hat Pins

I made a collections of hat pins in the past because many years ago a lady suggested to collect Victoriana for my daughters because when they grow up these things might no longer be available They have grown up now but Hatpins could not be further from their mind

L Decorative Stones for carving

Inuit carvings are very decorative in their simplicity

The stone often used is Serpentine, it has often attractive colours

and is easy to carve.

Chinese carvings are often made of Jade

Green Malachite can look spectacular and comes from Russia

Blue John is highly prized in Derbyshire

Shungite is found in Russia and some people prize it as a protective stone

M Fossils and Gems from Plants and Animals

Pearls and Cameos are made from Shells

Corals are the skeletons created by small sea animals More recent discoveries are in Australia and the West Indies

Amber is fossilised tree resin and prized when trapped insects can be found inside

Jet is fossilised wood and can be found in Whitby

Ivory and bone carvings are now protected and require certificated to be traded

Ammonites can be seen in museums nowadays

Unless you find one in Hotel Chocolate

N Crystals used for vibrational healing