



## Rose Quartz



Raw blocky rose quartz with good colour for cutting and polishing

## Global Mining Review and Potentially Economic Deposits

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## Content

	Page :
<b>1. Basics of Rose Quartz :</b>	3
<b>2. Global Review and Deposit Potential :</b>	5
<b>2.1 America :</b>	7
<b>2.1.1 Northern America :</b>	7
<b>2.1.2 Brazil and Southern America :</b>	10
<b>2.2 Africa :</b>	14
<b>2.2.1 Namibia :</b>	14
<b>2.2.2 South Africa :</b>	16
<b>2.2.3 Madagascar and other African Countries :</b>	17
<b>2.3 Asia :</b>	18
<b>2.3.1 Sri Lanka :</b>	18
<b>2.3.2 India :</b>	19
<b>2.3.3 Mongolia :</b>	19
<b>2.4 Australia :</b>	20
<b>2.5 Europe :</b>	20
<b>3. Assessment and Recommendations :</b>	21
<b>4. Selected Literature :</b>	22



## 1. Basics of Rose Quartz

Rose Quartz is a type of quartz, which is defined by its pleasing rose or sometimes pinkish colour, making it one of the earliest gemstones in use in human history\*. Most of the rose quartz is massive crystalline without forming good crystals, see title image. However, in the 1980ies small to medium sized rose quartz crystal aggregates became known from Brazilian pegmatites in larger quantities (Fig.2), which invariably grow on older colourless quartz crystals. While certainly beautiful, these rose quartz crystal aggregates are general not amenable to cutting and polishing due to their size and complex crystallinity.

The origin of the rose colour of rose quartz was long time disputed with fine dispersed rutile needles – titaniumdioxide – long thought to be the primary colouring agent of the quartz. Recent studies showed that an equally finely dispersed pink mineral of the dumortierite group – an aluminiumborosilicate – is more likely to give rose quartz its characteristic colour.

Rose quartz is by no means a rare mineral as such, occuring frequently in pegmatites and indeed hundreds, if not thousands of rose quartz localities and occurrences are known on a global scale. However, large economic mineable deposits with intense colouring are fairly rare and restricted to a small number of countries concentrated in the Americas and in Southern Africa. Rose Quartz typically occurs in the core region of pegmatites, associated with feldspar, colourless quartz, mica and often tourmaline. However some rose quartz deposits such as Namal Uyana in Sri Lanka appear to have a non pegmatitic origin.

Given the long gemnological history of rose quartz and its global prominence as gemstone the overall scientific literature about rose quartz and its deposits and mines is surprisingly scarce. Hence additional information for this study was drawn from personal experience, our in-house database and results of „google image search“ rather than from missing scientific publications.

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\*\* Earliest rose quartz bead finds date back to 7000 years whereas high quality rose quartz jewellery is known from Assyrian times around 1000 BC.



## 2. Global Review and Deposit Potential

The map on the following page shows the global distribution of major rose quartz deposits with a clear concentration in North- and South America and Southern Africa including Madagascar. The number of major rose quartz deposits of substantial size and good colour is surprisingly small and the number of presently mined rose quartz deposits – indicated by green squares in the map - even smaller. This makes rose quartz a quite exotic „niche“ commodity with much smaller tonnages mined and internationally traded as other industrial minerals such as baryte, fluorspar or high grade silica.

Output of rose quartz varies considerably from mine to mine, but most larger operations are estimated to be able to produce at least a few hundred tons a year of saleable product\*. All of this output comes in more or less small chunks and boulders and almost never as typical blocks as other ornamental stones. Photos in the internet of purported large rose quartz blocks indeed are most likely blocks of much softer pink travertine\*\*.

Pricing of rose quartz varies considerably, depending on colour, homogeneity i.e. absence of white lines and areas as well as transparency / luster. While a kilogram of rose quartz of low quality might sell by 20 to 50 Dollar / Euro, top qualities may well fetch several thousand dollars per kg or even more.

Removal of overburden and barren rock material is a limiting factor in extracting saleable rose quartz products, as well as the size and geometry of the quartz core of the pegmatite. Rose Quartz Mining is predominantly done by open pit operations and sometimes as shallow underground workings. Following the quartz core by shaft and tunneling underground might be a viable economic option, but to the authors knowledge this is not practiced anywhere.

As rose quartz mining are generally rather small operations with no big exploration budget, exploration of the individual deposits is generally very limited with almost no drilling and only few surficial trenches. Hence geological and resource data of rose quartz deposits is almost always very limited or simply non existent.

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\* in total and certainly in different qualities / colour grades.

\*\* e.g. <https://www.pinterest.de/pin/521784306812605144/>

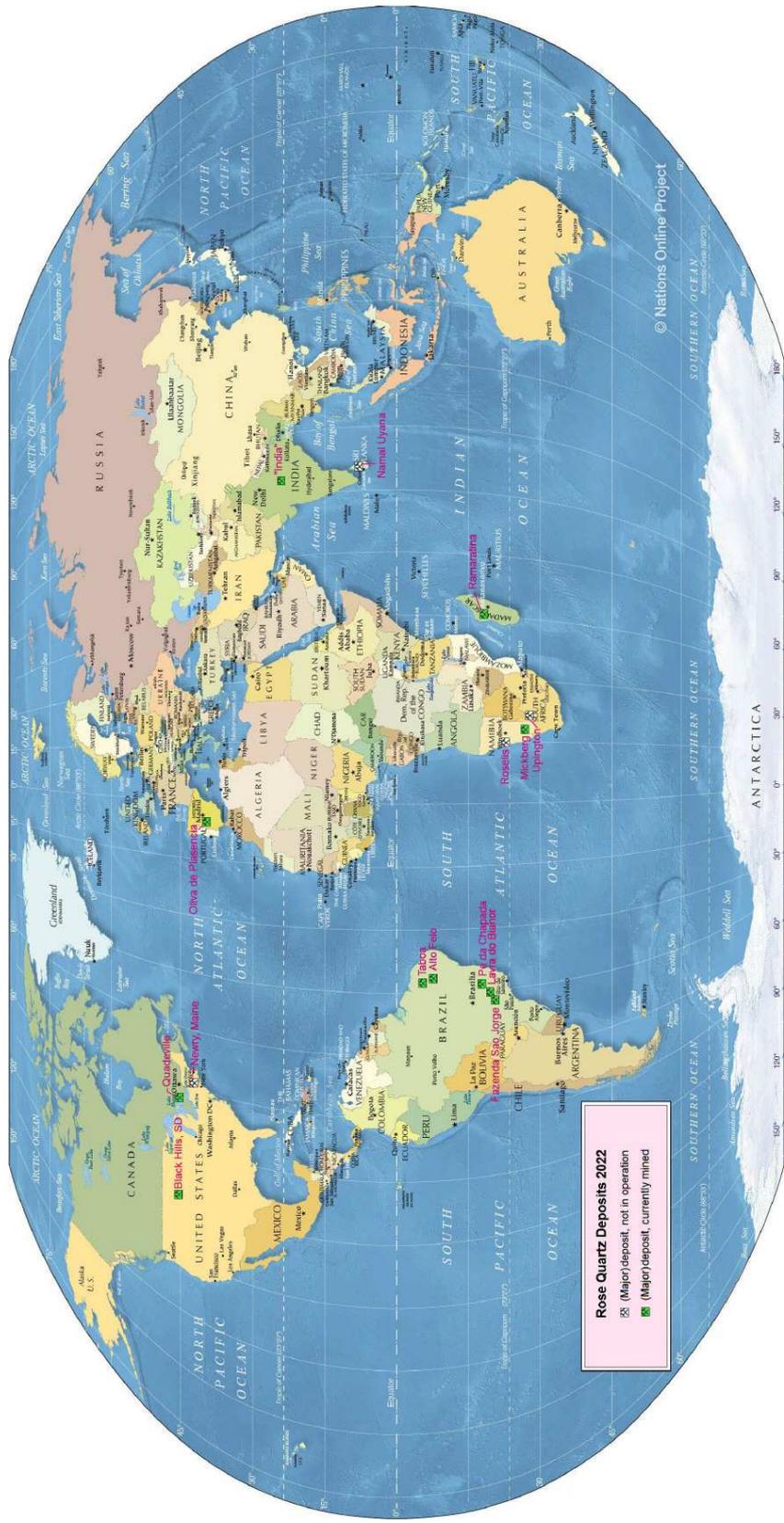


Fig.1 : Rose Quartz Deposits and active Rose Quartz Mines in green

Base Map Courtesy of Nations Online Project



## 2.1 America

### 2.1.1 Northern America

Rose Quartz was discovered in North America as late as 1880 with the Newry pegmatite in Maine (now largely inaccessible) being long regarded as the most important rose quartz deposit in the USA. Since then high quality deposits have been discovered both in Canada and the Northern USA, namely in the Keystone – Black Hill Pegmatite Field of Southwestern Dakota. A typical canadian example is the Quadeville Rose Quartz Quarry at Lyndoch, Ontario, wich is also known as Aqua Rose Quarry



**Fig.3 : Quadeville Rose Quartz Quarry, Lyndoch, Ontario**  
Photo Source : Frederic Messier at [www.mindat.org](http://www.mindat.org)

**Type of Deposit :** Core of pegmatite

**Size & Resources :** Large pegmatite with various commercial minerals such as rose quartz, feldspar and beryl

**Coordinates :** 45° 19.099'N / 77° 25.510'W

**Status and Remarks :** Active Rose Quartz & Beryl Mine, open for mineral collecting



## Keystone, Black Hills Region, South Dakota, USA

South Dakota is by far the largest rose quartz producer in the USA, accordingly rose quartz is the state mineral of South Dakota. Rose Quartz deposits are clustered in the Keystone - Black Hill Pegmatite Field in Custer County in the southwestern part of the state. Here we describe the two most important mines : the Scott Rose Quartz mine and the Bull Moose mine as typical examples. Other nearby located active mines of similar size include the Jefferson Mine, the Wiley mine and the Pink Panther Mine. **Note** : Due to the current lithium boom recently a number of lithium companies staked up the entire area for many miles, including all of the known pegmatitic rose quartz deposits.

### – Scott Rose Quartz Mine, Custer, South Dakota, USA also known as Pink Rose Quarry

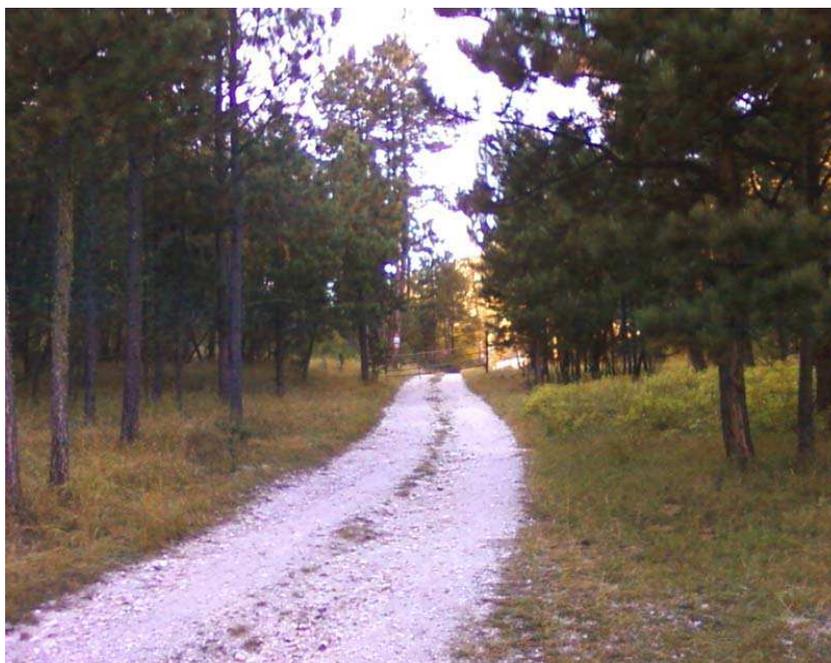


Fig.4 : „Rose Quartz Road“ leading to the Scott Rose Quartz Mine, Custer, South Dakota  
Photo Source : Christopher Wentzell at [www.mindat.org](http://www.mindat.org)

**Type of Deposit** : Core of pegmatite

**Size & Resources** : medium sized operation, being mined since 1920. No resource data available.

**Coordinates** : 43° 42' 57" N / 103° 30' 55" W

**Status and Remarks** : Reportedly the best colour of North American deposits. Rose quartz from this mine has been exported to Europe in the past



## 2.1.2 Brazil and Southern America

Currently Brazil is the largest single producer of rose quartz, exporting considerable amounts – estimated at several 1000 tons per year - of rose quartz to the markets in USA, Europe and Asia. Indeed rose quartz – or quartzo rosa in portuguese – is a common constituent of pegmatites in Minas Gerais and other states on Brazil. However also in Brazil the number of sizeable economic rose quartz deposits of good colour is rather small.

The following map in figure 7 shows the most important rose quartz deposits in Brazil and while being from 1991, the map nonetheless gives a good indications which areas of this large country are most prospective for investment into rose quartz mining.

A number of mineral dealers trade rose quartz from Brazil internationally, more information on contacts is available on request.



**Fig.6 : Rough Blocks of Rose Quartz from Alto Feio**  
Photo Source : Soares, D.R. (2016)

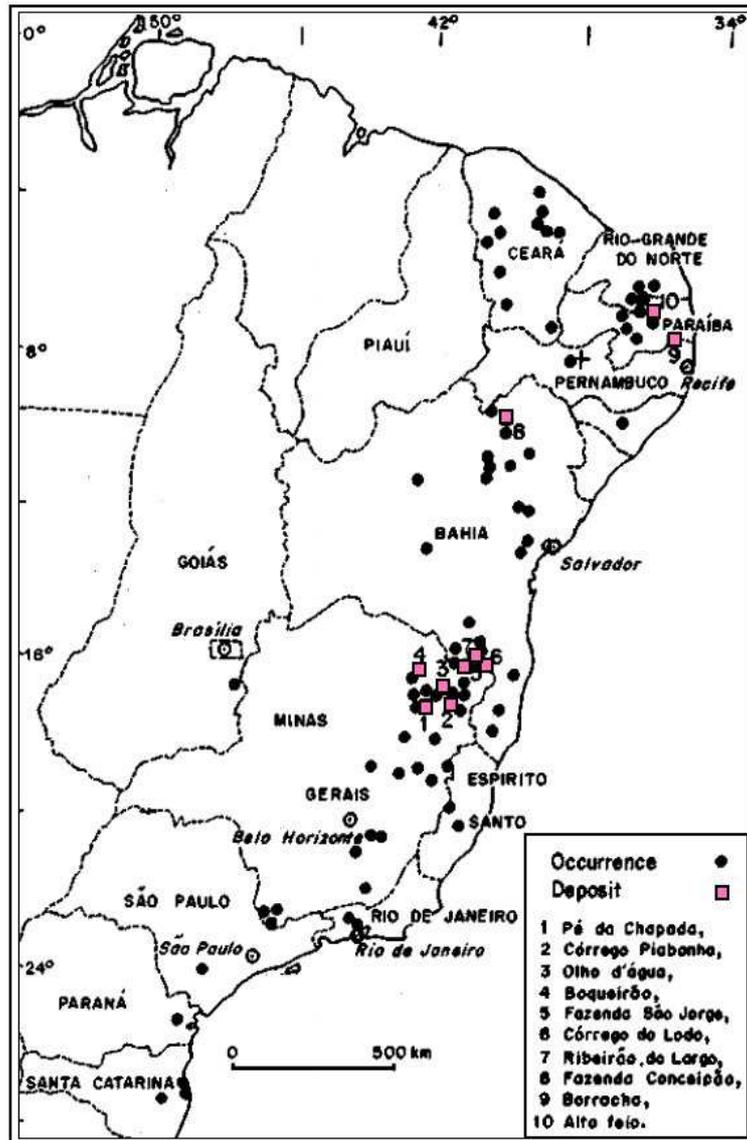


Fig.7 : Map of Major Rose Quartz Deposits in Brazil  
modified from Cassedanne, J.P & Roditi, M. (1991)

**- Alto Feio, Pedra Lavada, Paraíba, Brazil**

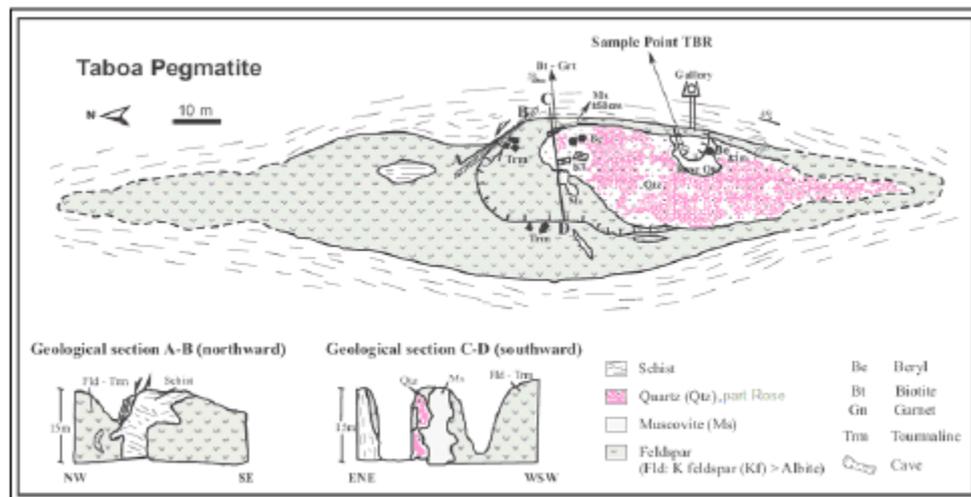
**Type of Deposit :** Core region of pegmatite

**Size & Resources :** The large pegmatite covers an area of 500 x 80 m, whereas only the central part of it hosts rose quartz.

**Coordinates (approximate) :** 6° 44.656' S / 36° 26.870' W



**– Taboa, Carnauba dos Dantas, Rio Grande del Norte, Brazil**



**Fig.8 : Geological Map / Section of Taboa Pegmatite with Rose Quartz Core**  
modified from Barreto, S.B. et al. (2009)

**Type of Deposit :** Core region of pegmatite

**Size & Resources :** dimensions see figure 8, resources appear to be substantial

**Coordinates (approximate) :** 6° 33.353' S / 36° 35.610'W

**– Pe da Chapada, Carai, Minas Gerais, Brazil**

also known as Santana and Lagoao

**Type of Deposit :** Core region of pegmatite

**Size & Resources :** no size and no resource data known, but resources appear to be substantial

**Coordinates (approximate) :** 17° 4.020' S / 41° 50.947' W

**– Fazenda Sao Jorge, Vitoria de Conquista, Minas Gerais, Brazil**

also known as Veredinha and Boqueirao

**Type of Deposit :** Core region of pegmatite

**Size & Resources :** Exposed pegmatite core of 120 x 10 m size with many rose quartz lenses.

**Coordinates (approximate) :** 14° 49.621'S / 40° 44.142'W



## 2.2 Africa :

Namibia, South Africa and Madagascar hosts major rose quartz deposits with good potential for further deposits in Mocambique and possibly in Angola. Here we present a number of investment and JV potentials in this region

### 2.2.1 Namibia :

#### – Roselis Mine near Swakopmund



**Fig.9 : Heaps of Rose Quartz at Roselis mine while in operation, ca.1995**  
Photo Source : [www.mineralienatlas.de](http://www.mineralienatlas.de)

**Type of Deposit :** Core region of pegmatite

**Size & Resources :** Fairly large, no resource data known

**Coordinates :** 22° 29.594'S / 14° 51.444'E

**Status and Remarks :** Worked until 2000, now defunct, close to tarmac road and infrastructure.  
About 100 km from Walvisbay port



– Mickberg Mine, Grünau, Southern Namibia



**Fig.10 : Mickberg Rose Quartz Mine near Grünau, Southern Namibia**

Photo Source : <https://www.withuis.net>

**Type of Deposit:** Core region of pegmatite

**Size & Resources :** no size and no resource data known

**Coordinates (approximate) :** 27° 37.750'S / 18° 22.919'E

**Status and Remarks :** Active mine (small to medium scale), mining and cutting / polishing of rose quartz of good colour.



## 2.2.2 South Africa

### – Rose Quartz Mine, Upington, Northern Cape, South Africa



**Fig.11 : Good Quality rose quartz at Upington Rose Quartz Mine**  
Photo Source : Rock Candy Mine at Facebook

**Type of Deposit:** Core region of Pegmatite ?

**Size & Resources :** no size and no resource data known, but from the photo resources appear to be substantial

**Coordinates :** unknown, close to Upington

**Status and Remarks :** Status unknown, appears to have high potential



### 2.2.3 Madagascar and other African Countries :

Madagascan Rose Quartz was first commercially mined early in the 20th century and originally came from the Antananarivo and Vakinankaratra provinces in central Magagascar. Since then Madagascar is a constant source for rose quartz of good quality, much of it is produced by small scall miners in alluvial operations and small pits concentrated in Tindoha region.



**Fig.12 : Rose Quartz in situ in a Madagascar Mine**  
Photo Source : Mineralienfachhandel Jörg Sahlmann GmbH

#### – Ramaratina Mine, Central Madagascar

**Type of Deposit** : Core region of Pegmatite

**Size & Resources** : Norcross owns and operates more than 65 km<sup>2</sup> of alluvial rose quartz area in Madagascar as well as several rose quartz bearing pegmatites

**Coordinates** : unknown, Ramaratina coordinates could not be found on maps or Google

**Status and Remarks** : Only single rose quartz operation in Madagascar listed in USGS\* – Country Yearbook for the last years. Open for investment and JV.

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\* United States Geological Survey, see <https://www.usgs.gov/centers/national-minerals-information-center/africa-and-middle-east#ma>



## 2.3 Asia

India and Sri Lanka are known for their rose quartz deposits, with Sri Lanka exhibiting the „largest rose quartz mountain in the world“ at Jathika Namal Uyana. Other countries in Asia with rose quartz deposits include China and Mongolia, see below.

### 2.3.1 Sri Lanka

Sri Lanka is endowed with hydrothermal quartz veins, some of which are valued for superior quartz quality with very few impurities. These are now mined in large scale and traded internationally. Accompanying the hydrothermal quartz veins rose quartz of good quality occur in places and is used locally for gemstone carving.

#### – Jathika Namal Uyana, Anuradhapura, Sri Lanka



**Fig. 13 : Rose Quartz Mountain Jathika Namal Uyana in Central Sri Lanka**  
Photo Source : <https://www.sunleisureworld.com/destination/sri-lanka/dambulla/tour>

**Type of Deposit** : Appears to be of non pegmatitic formation

**Size & Resources** : Very large, with large resources

**Coordinates** : 7° 54.596'N / 80° 34.572'E

**Status and Remarks** : Protected natural site (iron wood forest and pink quartz mountain), no mining permitted. Underground mining might be an permissible option.



### 2.3.2 India

India is a minor producer of rose quartz with several small to medium pegmatitic deposits known to occur in Hazaribagh in Bihar and in parts of Hyderabad district. Rose quartz has also been reported from Warangal district, Andhra Pradesh. In Maharashtra rose-quartz occurs as a pegmatitic vein near Khairi (21°32' : 78°50'), which is likely the most important rose quartz deposit in India. However little information is available about this site. Notwithstanding the minor domestic production of rose quartz there are a number of gemstone dealers in India, which offer large amounts of rose quartz – most of it probably imported from Madagascar or Africa - for sale. Contacts can be given on request.

### 2.3.3 Mongolia

During the research for this study, unconfirmed information was obtained about a large rose quartz deposit in Mongolia next to a base metal mine, which was discarded by the mine geologists as not interesting for their company. It might be interesting to follow up this information.

## 2.4 Australia

A number of so called „rose quartz deposit“\* in the usual pegmatite setting have been discovered in Australia, but for some reason all of the Australian rose quartz seen by the author is very pale rose at best and do not match the quality from Africa or America at all. Therefore we consider the rose quartz potential of Australia as fairly low.



**Fig.14 : Pale Rose Quartz from Spargoville, Western Australia**  
Photo Source : No author given, [www.mindat.org](http://www.mindat.org)

## 2.5 Europe

Europe hosts a number of long known and famous rose quartz deposits like the Kreuzberg rose quartz mountain in Eastern Bavaria, topped by a large church in the center of Pleystein town and therefore completely off-limits for mining or mineral extraction. Few rose quartz deposits are open to exploration and commercial mining nowadays in Europe, however there is an potentially interesting mine / deposit in Western Spain :

– **Oliva de Plasencia, Caceres, Extremadura, Spain**

**Type** : Rose Quartz inclusions in pegmatite veins

**Size & Resources** : small to medium operation, no resource data available

**Coordinates** : 40° 8.158' N / 6° 4.757' W

**Status and Remarks** : Status unknown, good colour



### 3. Assessment and Recommendations

Summarizing the results of this survey it can be concluded, that

- Rose quartz is not a rare mineral as such, but sizeable deposits with good colour and quality are fairly rare with rose quartz mines generally being small to medium sized operations. Typical annual output of a working rose quartz mine will be some 100 to some 1000 tons of rose quartz at maximum.
- Grade and colour vary greatly within a rose quartz deposit with only limited amounts of top colour material available at any time.
- Size of the rough rose quartz chunks and blocks vary, but are generally less than half a meter in size. Exceptions are possible, but purported images of meter sized blocks are most likely pink travertine rather than rose quartz.
- Pricing of rose quartz varies extremely, depending on colour, homogeneity, i.e. absence of white lines and areas and transparency / luster. While a kilogram of rose quartz of low quality may sell by 20 to 50 Dollar / Euro, top qualities may well fetch several thousand dollars per kg or even more.
- Geological information about rose quartz deposits and especially size, tonnage and reserves of deposits is generally hard to obtain or simply missing .
- Rose quartz mines are generally open pit operations. However selective underground mining of high grade zones may be an interesting and new approach to such deposits.
- Best areas / countries for investment will be Brazil, Southern Africa and possibly Sri Lanka and Mongolia, if the rose quartz deposit in Mongolia can be verified. Spain may be another interesting option serving the European market.
- Australia is considered as low quality region with little potential. North America certainly have better rose quartz potential, but currently „suffers“ from the lithium boom with most promising deposits claimed by lithium exploration companies not interested in interfering rose quartz mining operations. However this may change in the near future again.



#### 4. Selected Literature

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