



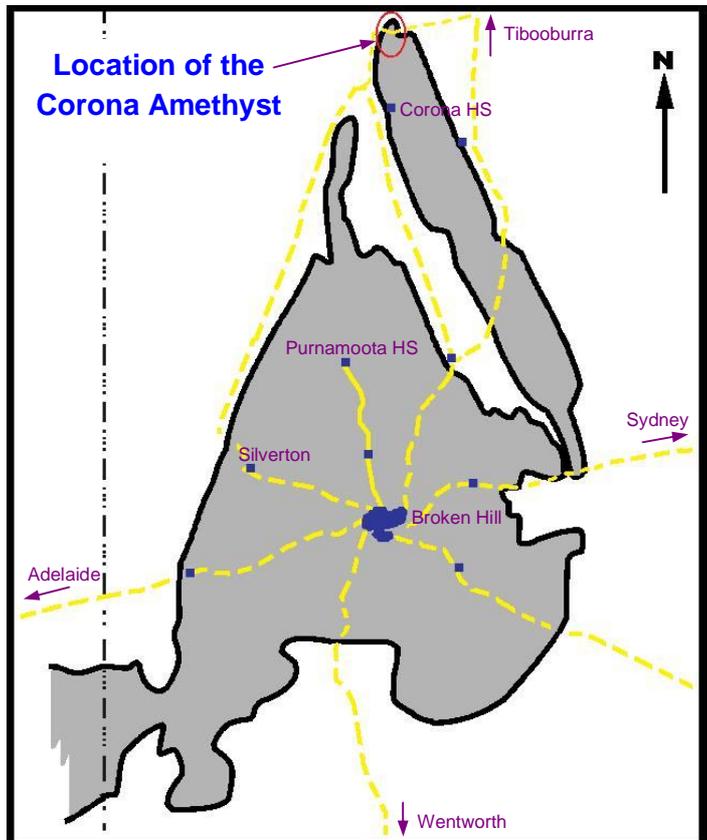
THE CORONA AMETHYST FIELDS

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The Corona Amethyst Fields are located approximately 90km north of Broken Hill at the top end of the outcrop of the Euriowie Block. This block forms the eastern edge of the Curnamona Craton and is a part of the Willyama Complex that includes the ancient rocks around Broken Hill and across the South Australian border to Olary

The fields themselves do not occur on Corona Station but their northern neighbour MacDougalls Well Station - owned the Hall Family, however Corona is crossed by the main access road. To reach the fields, head from Broken Hill, along the Tibooburra road for 30km until the Corona road turnoff is reached. Head up the Corona road for another 53km, passing Mount Gipps, Wendalpa, Poolamacca, and Corona Stations, until a sharp bend heading to the west in the road occurs. A track heads off towards the northeast and a windmill, tank and gate are in view. This track continues for another 10km to the amethyst fields then on towards the Tibooburra road. As this track winds its way through a long valley it skirts the edge of the Willyama Complex rocks. There are two distinctive coloured rocks along this road, a light tan coloured rock - the Adelaidean aged Corona Dolomite and a darker brown coloured rock - the Willyama Complex, Macdougalls Well Conglomerate. The fields are finally reached when a creek crossing followed by a steep rise occur in the road. At the top of the rise as the road levels out, a metal pipe in the shape of a "T" is seen on the northern side of the road. This pipe is the marker for a track that heads up the main valley to the smoky quartz areas. At the "T" pipe, old diggings are easily spotted leading off in all directions.

The diggings that are seen follow long veins of quartz, some of which have been opened up over a length of more than 200 metres. The zone where the quartz veins are found occurs solely within the Willyama Complex rocks and is lost once the contact unconformity with the Adelaidean rocks is reached. The best amethyst is found at the southern end of the field while smoky quartz predominates the northern end.



Above: Amethyst Hill, looking across the main amethyst diggings, as seen from the north.

Below: Following a vein of amethyst.

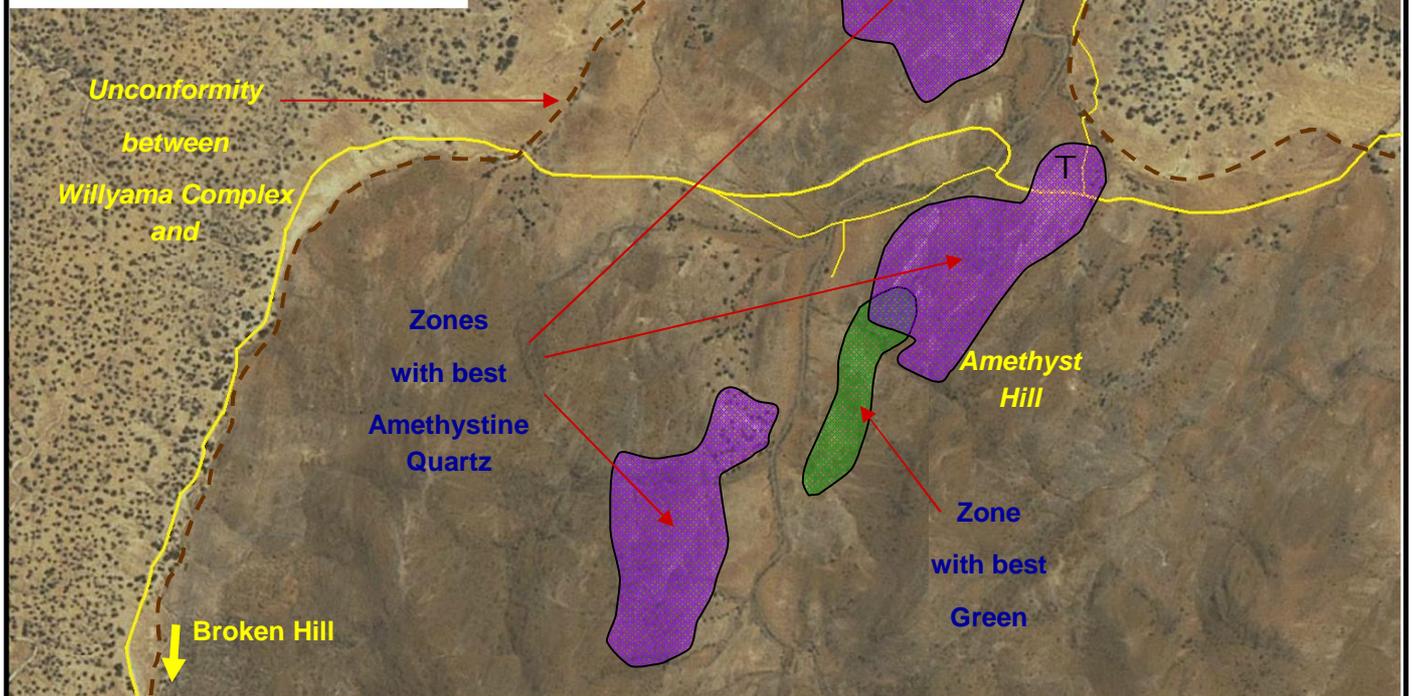


The Corona Amethyst Fields

The darker area shown on the aerial photograph is the outcrop of Willyama complex rocks.

The different coloured zones show the dominant types of quartz to be found in each area.

The main gravel road accessing the area is shown in yellow, with the smaller side tracks and the "T" pipe also shown.



These quartz veins run in two preferred directions, with the amethyst veins running north-south and the smoky quartz veins running east-west.

To find the best material it is essential to locate an untouched vein. These untouched veins are often hard to spot and can be easily missed. Evidence for the presence of the vein can be seen in the previous workings and yes it is true that some very nice pieces can still be found in the rubble from these workings if one is prepared to dig in deep and turn them over.

To locate the fresh seams, the process is very simple. Line up with the exposed veins and walk along the strike of the vein. Every now and then a small part of the vein is exposed at the surface and this

indicator is where to dig. The method now is to cross trench perpendicular to the strike in the hope that fresh material is exposed and plates of crystals tops start to emerge. The amethyst is around 20 to 40 centimetres below the surface and many cross trenches may need to be dug before a good vein is intersected.

Once a vein is located then it is important to extend the trench along the strike to find more material. While doing this it must be remembered that the end of a pick and the tips of crystals do not go together well and many potentially great samples turn into shattered debris if care is not taken.

Some of the veins are well embedded in rock and the digging is both hard and frustrating as the vein

pinches down into harder ground, but the booty at the end has its rewards.

The quartz veins that contain the amethyst are subtly different to most of the quartz veins found around Broken Hill. Generally they are narrower and have a distinctive off white colour. The full white quartz veins found in the area are usually barren and do not contain crystals.

When the field was first discovered some 50 years ago there was amethyst lying on the surface and excellent specimens were easily obtained. These included large plates of crystals with individuals up to 2 cm in size. The best of the material that has been found came from the veins on an area now known as "Amethyst Hill" and were the deepest colour. Amethyst Hill is the highest point seen in the vicinity of the diggings. As you move north along "The Long Valley" the amethyst is paler in colour, however some magnificent plates of quartz with secondary overgrowths can still be found. The best smoky quartz plates were found at the northern end of the valley on the hill overlooking the large creek.

At the base and along the western flank of Amethyst Hill there is green quartz. Some quite large seams have been opened up along this zone and there are numerous large pieces that could be good rough for tumbling or making cabochons. Often this material has amethyst zoning within, making it even more prized for cutting and polishing. There are also small crystal plates still to be found by specking over the old workings.

The green quartz has formed as a result of sun bleaching, which causes a fading of the purple amethyst to green. Sometimes plates have been found that have green crystals where they were exposed to the sun and amethyst where they were still buried. These are rare and make an excellent combination piece.



Above Top: Two pieces of the zoned amethyst - the first shows green crystals outside and purple underneath, while the second is a cut and polished face from a vein. Largest sample is 12 x 8 cm.



Above: Different shades of purple amethyst. Largest sample showing the banding is 8 x 6 cm.



Below: Plates of smoky quartz - largest plate is 10 x 12 cm.



Another interesting aspect about the quartz from this area are the three sided crystals. Often the crystal tops across some of the plates appear to have three sides. This is caused by a preferential growth of the three alternating sides of the termination to a point that the other three sides are merely a contact line. These are very unusual worldwide but are quite frequent at Corona.

With the right background knowledge and a little bit of hard digging, it is still possible to obtain good quality samples of the different coloured quartz plates from the Corona Amethyst Fields. This location is well worth a visit and it is an easy day trip from Broken Hill.



Left Top: *Small cluster of the green quartz*

Left: *Two views of the same "three sided" crystal*

Below: *The main trench opened up on the largest of the veins*

Bottom: *In situ quartz crystals in a typical vein.*

