

CALoola QUARTZ DEPOSITS

JORC Mineral Resource Estimate

Exploration Licence EL 9072 (Former EL 7803) | Bounty Resources Pty Ltd
Estimate of Quartz Resources

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Data in this report is extracted and updated information

Located near Caloola, south-west of Bathurst, New South Wales

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Note: Figures 1 and 2 are listed in the original contents but were not present as pages in the source document supplied for this redesign; they are omitted here rather than reconstructed. Section 6.0 (References) was also not present as a page — see the note under that heading.

1.0 Summary

Exploration Licence EL 9072 Formerly EL 7803 are located near the settlement of Caloola, south-west of Bathurst in New South Wales. The EL's cover areas prospective for high quality quartz occurring in elongated vein systems.

A review of the available data was made in order to determine whether a J.O.R.C. compliant resource could be calculated using such data, and if so, to estimate that resource.

A number of quartz vein systems have been recognised within the tenement areas, but only two (Vein “A” and Vein “B”) were shown to have enough information to attempt a J.O.R.C. compliant resource estimate. Some drill sections were available in the data set, but detailed geological maps were lacking. Sketch surface plans of outcrop patterns were constructed from the sections, and both the sections and plans were used to calculate the quartz resources.

The quartz resources (to 50m down dip extension) were calculated as follows:

Vein	Inferred Resource (tonnes)
Vein “A”	232,000
Vein “B”	342,000
Total	574,000

Due to the large distances between data points it was considered that the resource estimate could only be classified as “Inferred Mineral Resource” status as defined by the J.O.R.C. Code.

It was also considered that there is the potential for additional tonnages of quartz (in excess of 1,000,000 tonnes) within the other vein systems. However there is a lack of data (drilling and mapping) on these systems and much further work would be necessary before attempts could be made to estimate quartz resources with any confidence.

2.0 Introduction and Pre-amble

Exploration Licence EL 9072 are located near Caloola, southwest of the regional centre of Bathurst in New South Wales (see Reports by Sue Border 2001, 2002, 2003 and Figure 1).

The EL's contain a number of white quartz vein systems trending northerly to north-easterly. Much of this quartz is of high purity silica and suitable for various industrial purposes. The quartz veins have been plotted on a scale of about 1:72,000 (Figure 2) and ten shallow reverse circulation drill holes were completed targeting the various veins (Figure 2). Rock chip sampling has also been undertaken.

A discussion of the quartz resources is contained in Border's 2001 Report. She gives an “Inferred” tonnage of 370,000 for the quartz in Vein “A”, but it is not qualified in terms of a J.O.R.C. compliance. She also

suggests that a further 50,000 tonnes (to 35m depth) might be available in Vein “B”, and that there is potential for a further 100,000 tonnes down-dip and along strike.

The purpose of this Memo is to review the data and attempt to calculate quartz resources, while encompassing the parameters for compliance with the J.O.R.C. system of Resource classification.

3.0 The Data Base and J.O.R.C. Requirements

It is unfortunate that the data base does not contain detailed geological maps of the vein systems. We have some plots on the 1:72,000+/- scale, but for resource estimation and other matters it would have been desirable to have 1:500 or 1:1000 scale maps so that accurate plots of outcrop with structure (dips, faults, quartz vein widths—pinching and swelling/anastomosing/lensing etc.) could be shown.

Drill holes are plotted on Figure 2 and there are drill logs, co-ordinates, R.L., declination, azimuth and total depths for all holes. Several cross sections have been drawn up which give an idea of the orientation and true width of the quartz veins. For drill holes BS01, 02, 03, 04 on Vein “A” the sections allow us to obtain some idea of the likely extent and width of the vein. However this is not as good or reliable as having an actual map where the geologist has traced the actual contact (quartz–country rock). A construction of a map from the available sections is given in Figure 3 – note that data points (drill holes) are up to 100 metres apart. Also note that Hole BS01 was drilled under (and sub-parallel) to the westerly dipping quartz.

Figure 4 is a surface map of Vein “B” as constructed from the available cross sections on Holes BS06, 07. Holes BS05, 08, 09, 10 do not have constructed cross sections in the data base and because of their separation (+/- 2000m between 08-09-10 on Vein “E” and only one hole BS05, on Vein “D”) along strike, extrapolations of more than (say) 20 metres need to be treated with caution. All these matters impinge on the degree of confidence one can put on any resource estimate.

4.0 The Resources

4.1 Vein “A”

Figure 2 shows extrapolation of the quartz vein geometry from the known data points – drill holes 02, 03, 04. “Ore block” zones are shown. True width was determined from the cross sections of the holes – note that data points are up to 100 metres apart. Calculations were made using a specific gravity (s.g.) of 2.5 to allow for possible cavities etc. in the quartz vein material (the s.g. of pure solid quartz is around 2.65). A down-dip extension of 50 metres was also used in the calculations which came out at some 232,000 tonnes. Appendix I contains all the details.

Because of the long distances between data points (there could be pinching, splitting or swelling of the quartz vein between these points which are not recorded in the data) it would be prudent to classify the resource in the J.O.R.C. Category of “Inferred Mineral Resource”. A mapping exercise at 1:500 scale, without any further drilling would be sufficient to give one confidence to upgrade the estimate to “Indicated Mineral Resource”.

4.2 Vein “B”

The better known section of this vein (where the two drill holes are) is shown on Figure 4. The same parameters used for Vein “A” are also used here. Note that the distance between data points is some 150 metres. Extrapolations beyond the “ends” of the data points has been kept to a moderate 20 metres. Using an s.g. of 2.5 and a 50 metre down dip extension some 342,000 tonnes of resource is calculated.

As for Vein “A” it is considered prudent to place the estimate in the J.O.R.C. classification as “Inferred Mineral Resource”.

4.3 Vein “C”

There is very little information on Vein “C”, but it appears likely to be an extension of Vein “A”. From Figure 2 Vein “C” might be up to 500 metres long – outcrop is discontinuous. However there is no indication of the thickness of Vein “C” from the available data base and consequently any comment on possible resources would be premature.

4.4 Vein “D”

From Figure 2 Vein “D” appears to be some 1200 metres in length and with reasonable outcrop. The data base does not indicate the width or orientation of the quartz vein (other than striking near north-south). Hole BS05 was drilled at the northern end of the vein (Figure 2) near apparently good quartz outcrop. However the intersected quartz (from 2.0–10m downhole) was not a pure, solid quartz being interspersed with significant clay layers. The hole was drilled with a declination of –55 degrees and azimuth of 267 degrees, so it is assumed the quartz vein was dipping towards the east. As we do not know the angle of dip the true thickness of the quartz zone may be between perhaps 4.0m and 8.0 metres.

We can only postulate on the potential quartz resources from Vein “D” with the available information. Taking 1200 metres as the length, 6.0 metres as the width on a 50m down dip extension there is the possibility of some 900,000 tonnes of quartz in this location. Obviously much more work here will be necessary to bring any resource statement up to a J.O.R.C. compliance level.

4.5 Vein “E”

This vein is an extremely long feature (some 5km+ in strike length) trending northerly and north-westerly (Figure 2). However, according to Border (2001) outcrop near Hole BS10 consisted of a series of thin (0.5m+/-), en echelon vein type systems and might suggest that the system is not consistently wide enough (of pure quartz) to be potentially mineable.

Three holes (BS08, 09, 10) were drilled along the vein, with spacings in excess of 1.0km (Figure 2). BS08 and BS10 were angled towards the east, while BS09 was directed towards the west. This suggests that either the dip of the vein system was variable, or that it was not known. Thin quartz with clays and/or schists were intersected in all holes with the best intersection being in Hole BS10, with a 2.0m section of good quartz (88.2% silica, 14–16m downhole).

It is not possible to postulate a quartz resource for Vein “E” given the available information. However, considering three very long extensions of the structure it would be a useful exercise to map the system at a scale of at least 1:1000 to determine if there are zones that exhibit a significant thickness of “solid” quartz and to determine dips and general structure. Such mapping may result in proposals for additional drilling – at more favourable sites.

4.6 Vein “G”

This vein is marked on Figure 2, but there is no information on it in the reports. It also has a near E-W orientation which is different from all the other veins.

4.7 Summary of the Quartz Resources

Only Vein “A” and Vein “B” have sufficient data to enable a low category J.O.R.C. resource statement to be made. The resource status is considered to be in the “Inferred” category and is outlined below (considering a 50m down dip extension):

Vein	Inferred Resource (tonnes)
Vein “A”	232,000
Vein “B”	342,000
Total	574,000

Appendix I shows the calculations and Figures 3 and 4 are surface plan constructions from the drill hole sections.

With further work the potential for additional quartz resources within the EL areas may be determined. It is considered that taking a 50m down dip extension there is the potential to define in excess of 1,000,000 tonnes of high quality quartz within vein systems “C”, “D” and “E”. At this stage very little definitive work on these areas has been carried out.

5.0 Conclusions

EL 9072 are located near Caloola (near Bathurst) in New South Wales and cover areas showing potential for high quality quartz deposits.

A review of the available data (particularly reports authored by Sue Border) was undertaken in order to assess whether a resource statement (preferably J.O.R.C. compliant) could be made on the known quartz deposits.

The available information was found to be insufficient to calculate resources at a high level of confidence. In particular the lack of detailed outcrop/sub-crop maps of the quartz zones was most notable. In addition,

of course, the drilling data was limited and many more holes would be required before a J.O.R.C. Resource Statement to “Indicated” or “Measured” status could be made.

However it was considered that with Veins “A” and “B” J.O.R.C. Resource Statements at the “Inferred” status level could be made and calculations were made along those lines resulting in the following estimates:

Vein	Inferred Resource (tonnes)
Vein “A”	232,000
Vein “B”	342,000
Total	574,000

In addition it is considered that the areas within the EL's have the potential to host in excess of 1 million tonnes of quartz to a down dip extension of 50 metres. Further detailed mapping and drilling would be necessary to convert this “potential” to actual “Indicated” or “Measured” resources.

6.0 References

Border, S. – 2001, 2002 and 2003 exploration reports on EL 9072, referred to throughout this memorandum, are cited as the primary source of prior drilling, sampling and resource commentary.

Note: the full References list was not present as a page in the source document supplied for this redesign; only the in-text citations to Border (2001, 2002, 2003) could be recovered.

Appendix I — EL 9072 Quartz Resource Calculations

Vein “A”

Hole No.	True width (m)	Strike length (m)	Down-dip length (m)	S.G.	Tonnes
BS02	9.0	72	50	2.5	81,000
BS03	5.0	99	50	2.5	61,875
BS04	12.0	60	50	2.5	90,000
Subtotal, Vein “A”					232,875

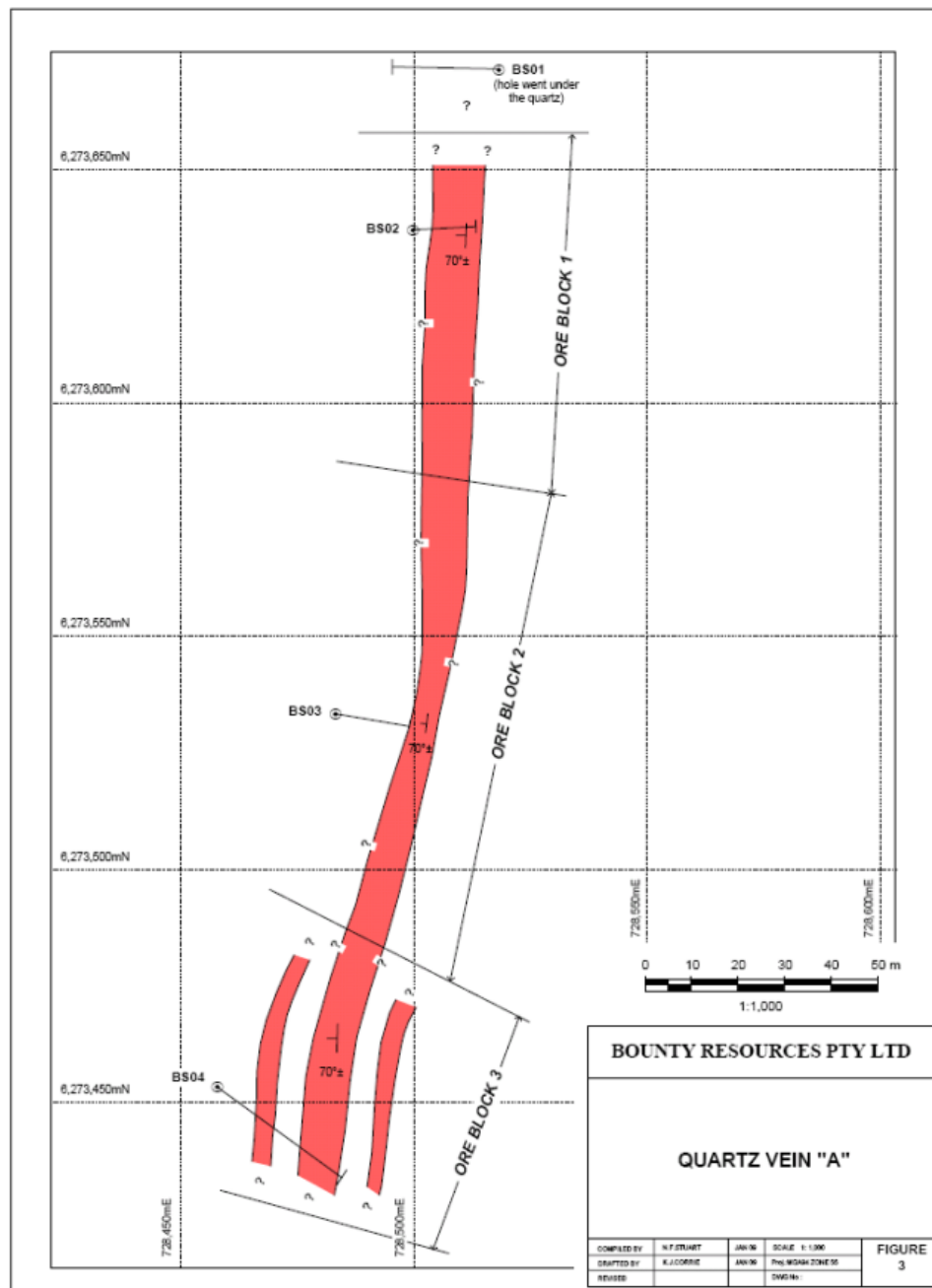
Vein “B”

Hole No.	True width (m)	Strike length (m)	Down-dip length (m)	S.G.	Tonnes
BS07	10.0	103	50	2.5	128,750
BS08	18.0	95	50	2.5	213,750
Subtotal, Vein “B”					342,500

Total for Both Veins: 575,375 tonnes

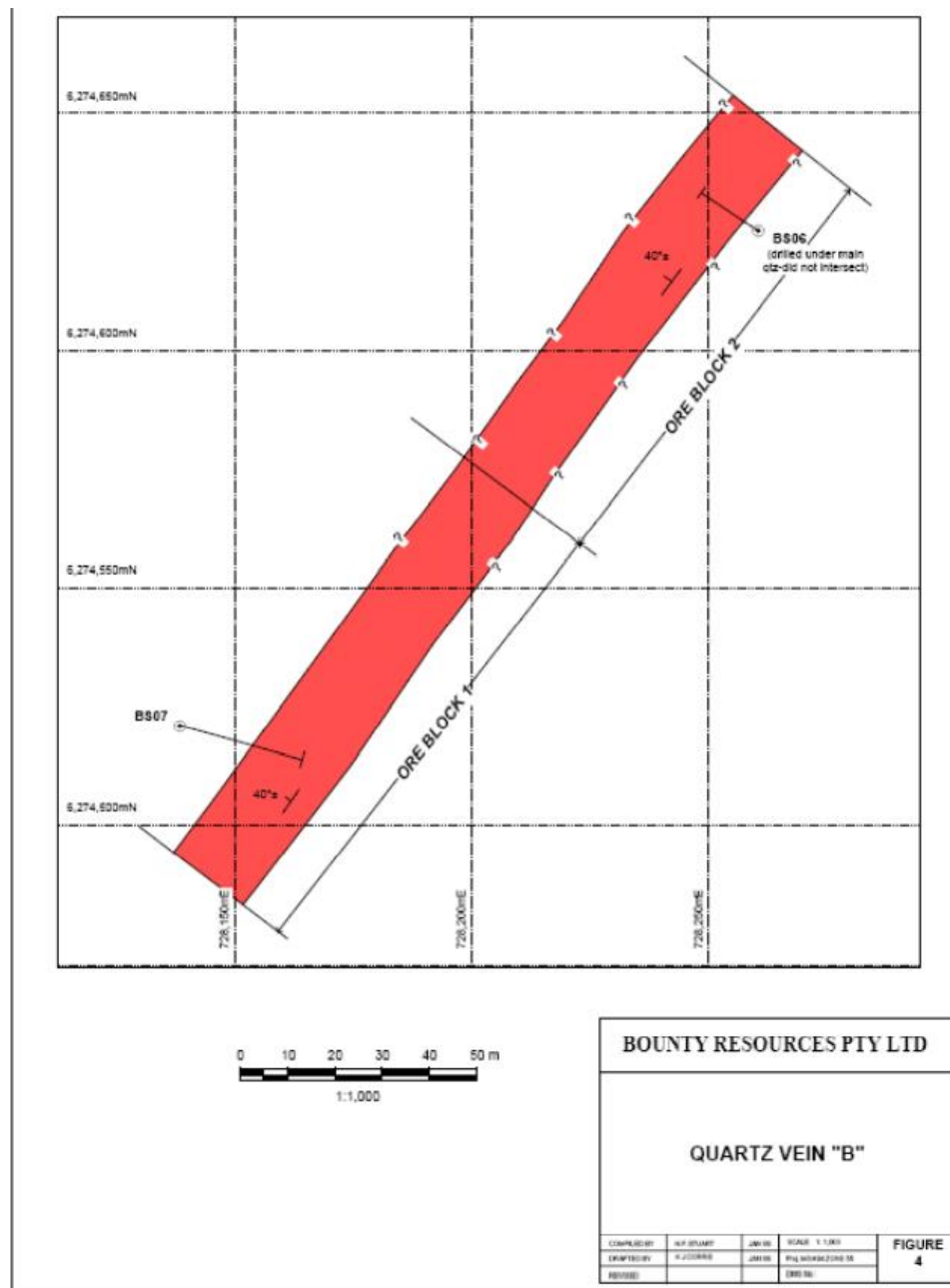
Figures

Figure 3



EL 7803 – Quartz Vein "A": surface plan construction from drill-hole cross sections (Bounty Resources Pty Ltd, 1:1,000).

Figure 4



FORMER EL 7803 / EL5661, EL5593 – Quartz Vein "B": surface plan construction from drill-hole cross sections (Bounty Resources Pty Ltd, 1:1,000).

Note: Figures 1 and 2 (Location and General Geology; Location of Vein Systems and Drill Holes) are referenced throughout this report but were not present as pages in the source document supplied for this redesign.