



December 2007

Editor: Rose Kapp (roszay@shaw.ca)

## SHOW 2007 REVIEW

all photos by Tom Schlegel



website:

[www.portmoodyrockclub.com](http://www.portmoodyrockclub.com)

- President:** Andrew Danneffel
- Vice President:** Warren Edwards
- Past President:** Drew Rekunyk
- Secretary:** Chris Laurin
- Treasurer:** Marlene Flanagan
- Membership:** Sonja Stubbings
- Workshop:** Andrew Danneffel, Bill McCracken, Geoff Cameron, Shirley & Warren Edwards, Richard Wile, Tom Schlegel
- Newsletter:** Rose Kapp
- Society Delegates:** Gary Richards (Sr.)  
Drew/Diane Rekunyk (Int.)  
Ken Ayres (Jr.)

### General Meetings:

Last Thursday of each month  
(except July, Aug, Dec)  
7:30 PM, Arts Centre,  
St. Johns St., Port Moody

### Next Meetings:

Dec. 13, 6:00, Kyle Centre  
Christmas Dinner  
Jan. 31, 7:30, Arts Centre

### BC Society Website:

[www.lapidary.bc.ca](http://www.lapidary.bc.ca)

Definition of yuletide:  
the phenomenon  
of watching  
the presents come in  
and the money go out.  
Johnny Hart,  
creator of the cartoon "B.C."



The Main Room



Cecil's case



Dedicated Kitchen Staff



Play is hard work



coffee & rock talk



Gold Panning 101



catching up



and this is how it's done

curious



"Junior, Mommy would like to talk to you about your rock collection."

by Erston Bernhart via Hy Grader 3/94

# CULLINAN DIAMOND MINE VISIT

by Lisa Elser & Tom Schlegel

On our recent trip to South Africa, we found ourselves with a free morning of idle time. What better way to fill it than a visit to the Cullinan Diamond Mine owned by De Beers located in the town of Cullinan, 40 kilometers east of Pretoria and 90 kilometers northeast of Johannesburg in South Africa.



The lure of the place is that three of the world's largest diamonds were found in Cullinan Village. Renowned for its famous De Beers Cullinan Diamond Mine, still in continuous operation, this village is a living museum with a range of historic Herbert Baker architectural structures.

The Premier Diamond Mine was established in 1902, and was renamed the Cullinan Diamond Mine in November 2003 in celebration of its centenary.

It is one of the few diamond mines in the world that allow tours of an actual operating mine. Most tours consist of a two hour visit to the village and the surface operations of the mine with a short video on the underground mining operations. You get to see piles of rough (uncut) diamonds and replicas of famous stones, walk past the winding engine house and headgear, and have a close up look into the "Big Hole".

The "Big Hole" is now nearly 1000 m long and 400 m wide at the surface, and narrowing down to 21 ha at the -500 m level. It was mined to a depth of 190 m from surface and is now being mined by underground block caving. The longer tour (advance booking is required) allows you to don a tin hat and burrow 763 metres underground into the darkened interiors of the mine. All tours finish up at the "factory" they demonstrate the process of cutting, polishing and setting of diamonds

– which of course are for sale!

The village of Cullinan was established in 1903 to provide mine housing and services for the Premier Mine. It still serves this purpose but retains the old mine village character and is well conserved as a living museum. There are many historic stone and corrugated iron buildings dating from the 1900's including churches, miners houses and mine offices. Nearby is the Zonderwater prison that was used to accommodate large numbers of Italian prisoners-of-war during World War II.

The Cullinan Diamond Mine is located on a rich diamond-bearing kimberlite pipe at Cullinan. The pipe is carrot-shaped volcanic neck originating from great depths within the Earth and is the largest in South Africa. The name "kimberlite" comes from the city of Kimberley in the Northern Cape from where this very unusual rock type was first mined in 1871 as "yellow ground" at what is now Kimberley's "Big Hole".

Thomas Cullinan, an amateur geologist, discovered the Premier kimberlite in 1898. His attention was drawn to the area by the alluvial diamonds that were being found in nearby stream. Mining started in 1903 and in the first year of operation over 100 000 carats were

• The Taylor-Burton, 62.40 carat, cut from a 240.80 carat rough diamond.

Amongst all the large diamonds found on this mine, the Cullinan reigns supreme.

The Cullinan Diamond was discovered in 1905, just two years after mining operations commenced. It weighed 3106 carats, was 10 cm long, 6 cm high and 5 cm thick and by far the largest diamond ever found. The original stone was cut into nine large stones and 96 smaller brilliants. The four largest stones are known as "The Stars of Africa". Cullinan I or the "Great Star of Africa" is the largest at 530.2 carats. All nine large stones are either in the Crown Jewels or are owned by the British Royal Family.

The mine is the third largest diamond producer in South Africa with an annual production of around 1.6 million carats, of which 20% are gems stones. The mine is renowned for the large diamonds that it produces and has produced over 300 stones greater than 100 carats and more than a quarter of the entire world's stones larger than 400 carats.

Oh by the way, if you happen to have about \$1 billion USD laying around – you can own the Cullinan Diamond Mine! In February 2007, De Beers announced plans to sell it's



photo by Tom Schlegel

recovered. It is still one of South Africa's largest and most productive diamond mines. All production is now from underground.

Some of the large diamonds found here are:

- The Golden Jubilee, 545.65 carats, cut from a 755.50 carat rough diamond.
- The Niarches, 128 carat, cut from a 426 carat rough diamond.
- The Centenary, 273.83 carat, cut from a 599.10 carat rough diamond.

most famous diamond mine. Because the Cullinan mine is an established operation with well-researched reserves, it is attractive to many smaller, low-overhead diamond producers. De Beers has been conducting a series of screening of potential bidders so hurry up and submit your offer.

The move by De Beers to sell the Cullinan mine is a sign of the times with mature diamond mines. The Cullinan Diamond Mine

is marginally economic/sub economic at a value of ore per tonne of only 17.5 USD, particularly when compared to the recent mine developments in NW Canada with 200-800 USD/tonne ore.

As operations must shift from open-pit/open-cast to more capital-intensive underground operations, the cost of mining will only go up further. Open pit mining stopped in 1945 and underground open-cast mining began to its current to a depth of 186 metres. De Beers was lucky since the consistently strong side walls of country rock permitted the open pit mine to be converted into an underground operation fairly simply. The Premier pipe is elliptical at the mouth, about 853 x 427 metres and in the centre of the upper regions is a huge block of quartzite which divides it into two down to over 305 metres. In the 1970's work began to remove this floating reef by blasting, and now, mining will continue into the main oval-shaped kimberlite pipe at a depth of 800 metres from the surface. Projections show that current reserves in this pipe will be depleted in 2012.

The mine is attracting serious buyers due to a block cave mining plan De Beers calls the Centenary Cut, which takes underground mining to a depth exceeding 1,000 metres, and extends the life of the mine by a quarter century. On completion, the new facility will more than double the current production. Once sinking operations commence, undercutting will begin about four years later. Full production is expected within seven years.

## Meeting Highlights

A big apology from your editor, but I've been so busy I didn't get around to putting a November issue together. Hopefully, life won't throw too many curves at me in the new year. Cheers!

### Meeting Highlights, October 18, 2007

- PMC class was photographed for the TriCity news.
- Mackenzie from the UBC Museum put our poster in their newsletter which gained interest.
- PoMo library display generated interest. Next year, an club contest will be arranged for this display to promote participation.
- Promotion for the show is going ahead. Thanks to Gary and Drew for putting up signs and Warren for making more A frames. All show cases are booked. Skirts for the show cases have been ordered.
- Geologic Journey DVDs have been ordered by Andrew for viewing at meetings.
- Discussion on how to handle the fact that the club is getting larger.
- In the workshop, all saws are working thanks to Rex, Tom and Warren. Equipment not sold at member auction will be offered at show. 4 people are attending faceting. There were a number of special workshops offered including wax carving, beading and fork-art.
- Elections are next month.
- Things to think about: How do we keep new members up to speed on teaching them to use the equipment properly? Time to start thinking of a theme for next year's show.

### Meeting Highlights, November 22, 2007

- Show report by Shirley reported that the show went well, but attendance was about 100 less people than last year. Revenues reflected this. There are a number of ideas to help for next year's show.
- Field trip planned for March to Anderson Barr. Check with Gary.
- Tom is now a workshop supervisor.
- Workshop seminar planned for Tuesday, Nov. 27th.
- Special workshops are postponed.
- Elections: Lisa Elser is junior Society delegate. • Show chair: Shirley
- Treasurer: Marlene Flanagan • Secretary: Chris Laurin • VP: Warren Edwards • President: Andrew
- Club Christmas Party: Thursday, Dec. 13. See Upcoming Events.
- Meeting structure was discussed to see how we can shorten the business part and make more time for entertainment such as documentaries. If you have a matter that deals with the club, it should be brought to the attention of a committee leader prior to the meeting. Committee leaders should prepare a concise report for meetings.

## UPCOMING EVENTS

### Port Moody Rock Club Christmas Dinner, Thursday, December 13th, Kyle Centre

Setup 5:00 PM; please come early and help. This year's dinner is not a potluck. Club is purchasing + preparing the bulk of the food, including a turkey and ham. If you are able and willing to contribute a dessert, salad, or trimmings, please contact Shirley: 604-931-6986  
The event will include a draw for gift baskets and rock prizes, in addition to our annual crossword challenge. RSVP by December 7th with Diane Auld. Email: [diane@auld.ca](mailto:diane@auld.ca) or phone: 604-430-5746. We are asking you let us know in advance whether you will be attending such that we can ensure we have enough turkey for everyone.

The next field trip is Yale Barr on January 13, 2008 and the next Club show is the Maple Ridge show, February 16 & 17, 2008.

For more information, check the society web site: [www.lapidary.bc.ca/gemshow](http://www.lapidary.bc.ca/gemshow)

## Goody Schedule

After every general meeting there is a round of treats and coffee. Here's a reminder who's next on the list of supplying goodies.

2008

- January • Rose
- February • Bill McCracken
- March • Harold Lindsay
- April • Chris Laurin
- May • Sonja

## Workshop Schedule

- MON Lapidary 8:30 AM - 12 noon
- TUES Lapidary 7:00 PM - 9:45 PM
- WED Faceting 7:00 PM - 9:00 PM
- THURS Lapidary 8:30 AM - 12 noon

For faceting, contact Bill McCracken at 604-469-1726



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