

# **Lab Grown Diamonds vs. Mined Diamonds**

Joe Yuan     2016-07-26

On July 18th, 2016, Morgan Stanley in New York, USA released a report on the effect of lab grown diamonds to mined diamonds. Based on the report and the present market situation of lab grown diamonds, the writer concludes the following points:

## **1, The grown diamonds are divided into 3 sizes:**

- a, Small: up to 0.02 carat
- b, Melee: 0.03 to 0.19 carat
- c, Large: 0.20 to carats.

## **2, The price of current lab grown diamonds**

a, Small: There are about 7000 HPHT machines in China for growing industrial diamond abrasives, and most of the machines can be used to grow gem quality colorless rough diamonds. The rough price: 2014 \$60/ct, 2015 \$40/ct, 2016 summer \$15/ct. The Selling price of polished grown diamonds (cut in India) will be \$125-150/ct. Mined diamonds of similar size and quality are about \$250-300/ct.

b, Melee: the same producers as small diamonds in China, now the rough price is close to that of mined rough, and there is enough space to be cut down. The final price of the polished grown diamonds will be half of mined diamonds.

c, Large: There are about 10 CVD factories growing large CVD diamonds which locate in Singapore, USA, India, China. Quantities of their CVD machines are 400, 80, 60 to 5. The selling prices are about 50 to 70% that of mined diamonds with

quite large space to be cut down. The final future prices will be 10 to 30% as the mined diamonds' prices at this moment.

### **3, The price of the mined diamonds**

Mined diamonds of high quality and large size will still keep a high price. Medium, low quality and small size mined diamonds will drop down until only a few percent higher than the grown diamonds.

### **4, the relationship between the grown and mined diamonds in the future**

The relationship between grown and mined diamonds in the future will be the same as cultured and natural pearls at this moment.

5 years ago, the Oppenheimer family, the biggest shareholder of De Beers, sold out their natural diamond branch DTC's (Diamond Trading Company) stock, but still keep their synthetic diamond branch Element 6's stock; However, 2 months ago, Element 6 was discussing to sell its lab grown diamonds to Swarovski, the largest synthetic crystal glass manufacturer all over the world, for cooperation .

### **5, Identification of lab grown diamonds and mined diamonds**

Nowadays, the identification technology of lab grown diamonds and mined diamonds has been matured, and kinds of larger identification laboratories have enough equipment available; And small identification laboratories, the medium to large Jewellery Stores and mounting factories have the ability to buy proper machines for identifying.

Simple but effective identification principles:

a, UV-VisSpectroscope, 415nm Absorption Peak (98% Natural Diamonds)

b, Boron Phosphorescence ( 100% HPHT diamonds、 part of CVD diamonds )

c, Microscope + Crossed Polarizing Films ( most of the CVD diamonds )

d, Strong Magnet Attachment ( mostly HPHT diamonds )

e, Observation of Inclusions via Microscope

f, Observation of External Structure and Composition Features via  
DiamondView

## **6, Future of mined diamonds**

Actually, the cost of lab grown diamonds has been pretty low, and the manufacturers sell the diamonds at a high price to decrease their investment cost. The HPHT and CVD technology has been gradually popular, and with the fierce competition, the price in next a few years will gradually decrease, and more and more lab grown diamonds shall be sold in the market. Except for the high quality and large size natural diamonds, the price of other diamonds shall gradually approach that of lab grown diamonds. Those natural diamond mining companies shall finally go out of their nonprofitable business; And polishing factories shall change to cut lab grown diamonds; Diamond trading companies should seize the opportunity and ways to start the selling of lab grown diamonds as early as possible.

In the report, Morgan Stanley had given a timing of “year 2020”, when it is of great possibility that lab grown diamonds shall substitute mined diamonds.