

## DeBeers' \$94 Million lab-grown diamond facility set to sparkle in Gresham



A rendering shows what Element Six's new synthetic diamond manufacturing plant will look like when construction wraps up in 2019.

Mara Viggiano Person

Steve Coe Person



By Zane Vorenberg  
– Contributing Reporter

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It's been seven months since De Beers Group broke ground on the 8-acre Gresham site it purchased from the Port of Portland for \$2.3 million, and slowly a new production facility for jewelry-quality lab grown diamonds is emerging.

Element Six, which is owned by De Beers and based in Oxford, England, has been making lab-grown diamonds for industrial use for about 60 years. But this is the first time the subsidiary has branched out into growing diamonds for the jewelry market. The facility, when finished in early 2020, will produce about 200,000 polished karats worth of gemstones a year. It will be the main production facility for a new jewelry company, also owned by De Beers, called Lightbox, which will set the stones in pieces like earrings, rings and necklaces.

"When we were planning the launch of Lightbox, we realized we needed a sizable production facility to source our fashion jewelry," said General Manager Steve Coe. "We were quite keen to be in the USA. It's a major market area. Electrical power is important to the process, so we wanted to be someplace with renewables. And we wanted a skilled labor force. Gresham had everything we needed."

De Beers is investing a total of \$94 million over the next four years in the new production facility and jewelry company. It also got a tax break through Oregon's Enterprise Zone program for its facility, located in the Gresham Vista Business Park. Through that program, eligible companies receive three- to -five-year tax abatement on new investments in exchange for meeting job creation and other business requirements.

Gresham has some other requirements the company has to meet, including: making a minimum investment of \$1 million; annual compensation for production occupations that exceed 150 percent of Portland metro minimum wage at the time of the application; paying a community service fee at a rate of 25 percent of the abated taxes; offering a workforce development plan; and making a good faith effort to procure goods and supplies locally.

The production facility will be complete later this year, and Lightbox plans to start manufacturing at the site in January 2020, while building out to full production by the end of the year.

“When it’s fully up and running it will have about 60 employees,” Coe said. “This is a significant undertaking in itself, but the plot of land we’re on, we can also extend the property as the business grows.”

### Synthetic Gems

De Beers has been selling mined diamonds since 1888 and employs more than 20,000 people worldwide. The company got into manufacturing diamonds used by industry in the 1960s, but the quality of the gems was not good enough for jewelry until very recently, said Mara Viggiano, a spokeswoman.

“De Beers has been manufacturing lab grown diamonds for a very long time, but it’s evolved to a point now where they can grow gem quality stones,” Viggiano said.

Industrial diamonds are used in a host of applications, but the technology used to make them hadn’t changed much until recently, said Mark Newton, a professor at the University of Warwick in the UK and a long term research and development collaborator with Element Six.

“Synthesizing diamond is one thing, but producing single crystal diamonds that are big enough for a whole range of technological applications (as well as gemstones) and relatively free of the impurities and defects that degrade their properties (such as optical transparency and color) is an entirely different matter,” Newton said. “In recent years scientists and engineers have brought the synthesis process under control through clever engineering and understanding many subtle details of the process. Through precise regulation of the growth environment, and reducing contamination with unwanted impurities, it is now possible to produce diamond with a range of very attractive properties.”

A number of jewelry makers are now producing lab-grown gems, including MiDonna & Co., which has been making jewelry from its own lab-grown diamonds since 2005. The Portland company positions itself as an alternative to mined "conflict" diamonds, so-called by critics who point to the political, humanitarian and environmental costs of extracting diamonds.

For Element Six, manufacturing diamonds in the lab is an opportunity to make jewelry that is more affordable than pieces made with mined diamonds.

“Most consumers still want a natural diamond for their engagement ring, but when they look at lab grown diamonds, they think it looks great — and it’s good for everyday occasions,” Coe said, adding that manufactured gems can also be grown in pink and blue shades.

Lightbox Gems will cost somewhere between \$200 and \$1,000. The company has a fixed pricing structure of \$200 per quarter karat, or \$800 per karat, which doesn’t include the cost of a setting. But settings are also inexpensive, costing \$100 for silver or \$200 for gold.

In comparison, a mined natural one karat diamond would cost between \$5,000 and \$6,000, Coe said.

### Lightbox launch

Element Six is already selling some diamonds from its Lightbox Jewelry website, and it’s planning on big launch events in Los Angeles and other big cities in the coming months. Since the Gresham facility isn’t yet ready, for now the company is sourcing lab-grown diamonds from other Element Six production facilities in the United Kingdom. But that’s small scale and will change when the Gresham facility opens next year, Coe said.

“When it’s complete, we’ll be able to make half a million rough karats a year, which turns into about 200,000 polished karats in gemstones,” Coe said.

Which also keeps prices low.

“Unlike natural diamond there is no reason why lab grown diamonds should be rare – lab grown diamonds are a product of engineering and science,” Nelson said. “Thus it seems to me that there is a large market for lab-grown diamond jewelry, if the jewelry design is good.”

It’s also not likely to change the market for mined diamonds, Viggiano said. For very fancy occasions, people still want something natural and not grown, she said.

“Mined diamonds, every one of them is unique,” Viggiano said. “That’s why there’s such a focus on clarity and color. Lab grown diamonds, on the other hand, are all the same. But with them, you can experience the fun of mined diamonds without the expense.”

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#### Closer Look

Company: Lightbox Jewelry and Element Six (part of De Beers Group)

Headquarters: Gresham, 23055 S.E. Stark St.

General Manager: Steve Coe

Employees: 60 planned when the facility becomes operational in 2020

Founded: May, 2018

Annual Revenue: De Beers had \$5.8 billion in revenues in 2017. De Beers has invested \$94 million in building out the Gresham production facility over the next four years.