Client Information
about New Beryllium Detection Service by SSEF

Why use the SSEF GemLIBS™ ?

To detect beryllium diffusion treated sapphires.

What is beryllium diffusion ?

Beryllium, a foreign chemical element, is introduced into a sapphire during heating at high temperatures. Beryllium diffusion results in a colour modification (often yellow to orange).

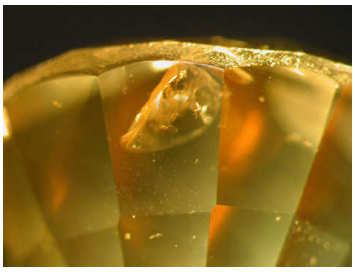
How does the SSEF GemLIBS™ work ?

The system uses a Laser beam to produce a highly sensitive chemical analysis of the stone.

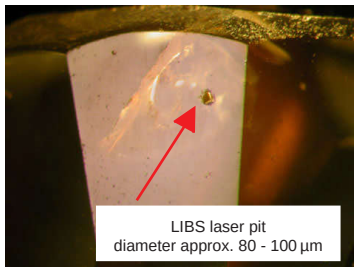
What happens with my stone when tested with the SSEF GemLIBS™ ?

The Laser beam produces a tiny pit which does not affect the colour, purity and brilliance of the stone.

An analysed yellow sapphire



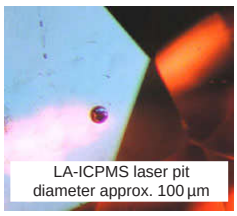
in transmitted light
Laser pit is difficult to see
(healing fissure was present before analysis)



in reflected light
Laser pit is detectable
diameter 0.08 - 0.1 mm (80-100µm)
picture width 2.9 mm

Is there another method for detecting the beryllium diffusion treatment ?

A safe detection is usually not possible with other gemmological methods. With Laser ablation ICP mass spectrometry (LA-ICPMS), this treatment is also detectable, but similar Laser pits will result.



LA-ICP MS produces similar pits (100 µm) as does the SSEF GemLIBS™

Where do I get my stone analysed ?

Send your stone to the SSEF Swiss Gemmological Institute. Please use the SSEF order form (download order form at www.ssef.ch/order.pdf).
We analyse the beryllium content in the SSEF laboratory in Basel.

How is the result presented ?

The result is reported on a SSEF Treatment Slip or on a SSEF Gemstone Report (if requested)

What is the price for a beryllium detection with SSEF GemLIBS™ ?

150 Swiss Francs (excl. VAT) per stone
50 Swiss Francs (excl. VAT) per stone for lots of five or more stones

Where do I get more information ?

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