



Jewellery Forensics - Mobile Gemological Services

David Hessels G.G. Graduate Gemologist / Certified gemstone and jewellery appraiser in accordance to DIN EN ISO/IEC 17024

Gemological Report XX4 / SAMPLE 1

Date: 05-03-2020



Specimen:	Natural Topaz
Weight & Clarity:	158,80 Ct / EC (Eye Clean)
Cut:	Oval cut (mixed) with a slightly bulged pavilion
Measurements:	35 x 26 x 23 mm
Colour:	Slightly Pinkish Brown / Sherry
Spectroscopic Signature:	Typical natural Topaz with OH- Peak (Raman and Photoluminescence at 532 nm)
Fluorescence:	Longwave UV: Inert / Shortwave UV: Inert
Refractive Index:	1,612-1,619 / Birefringence: 0,007
Treatment:	No indications of treatment detected
Inclusions:	Phenakite crystals with comet tails
Condition:	Undamaged; this stone has not been mounted in jewellery

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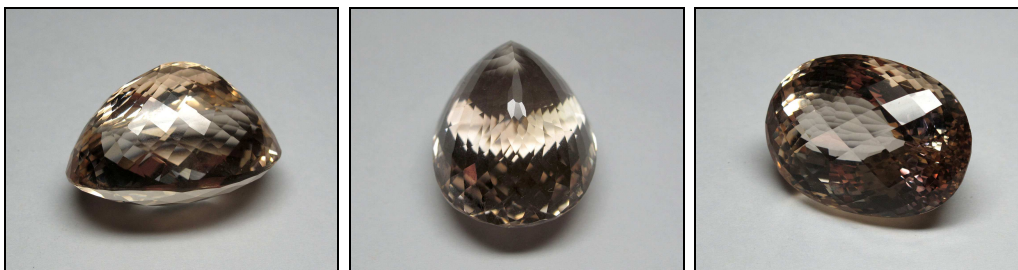


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Gemological Report XX4 / SAMPLE 2

Date: 05-03-2020



Photographs taken on standard grey card and 6500 Kelvin overhead lighting



A phenakite crystal with "comet tail" due to growth blockage (dark field lighting 80x)

(See Geminterest inclusion nr. 692, and photo atlas of inclusions in gemstones, vol. 2 by Gübelin and Koivula)

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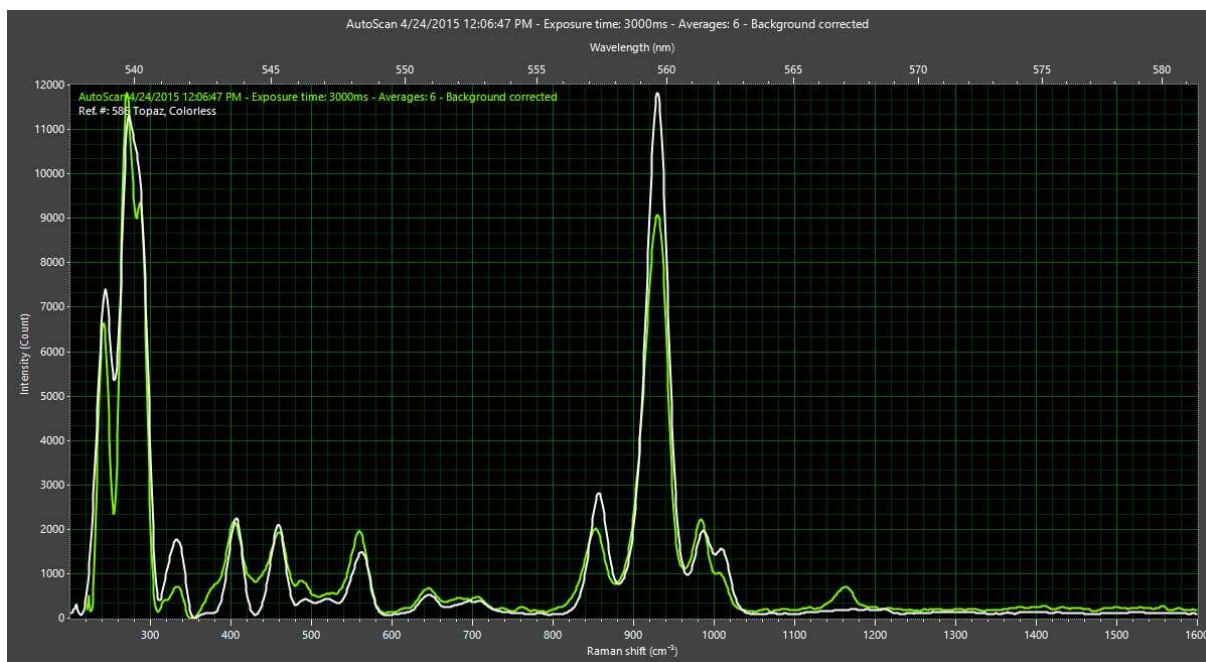
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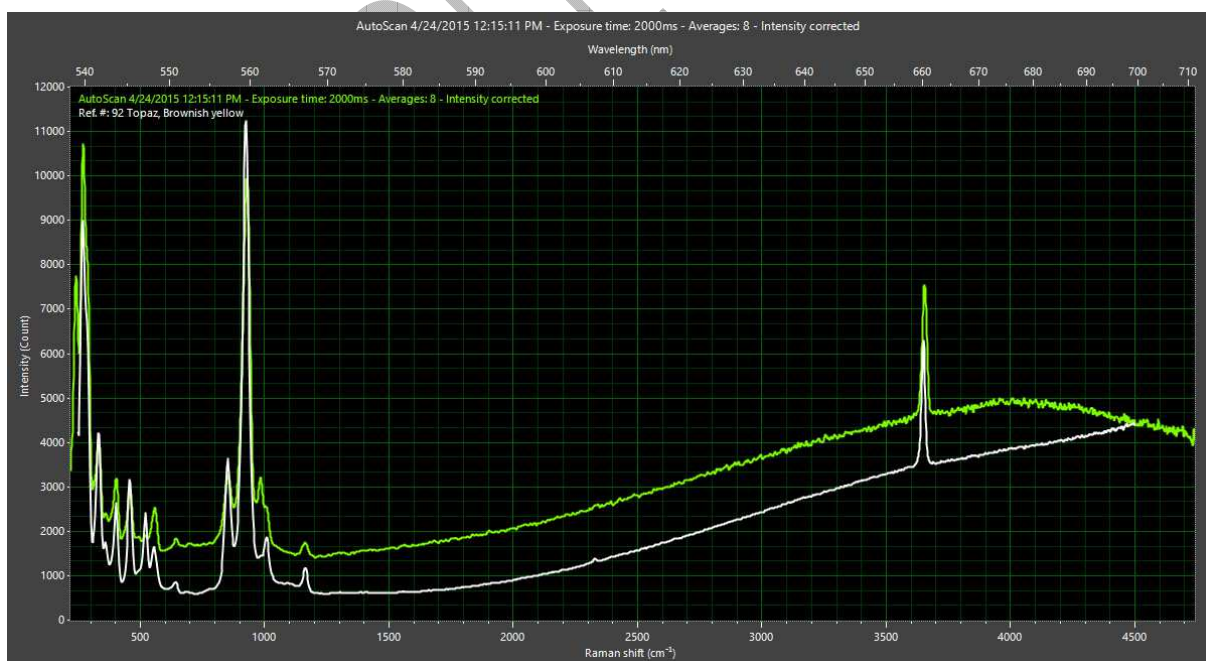
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Gemological Report XX4 / SAMPLE 3



Raman spectroscopy shows typical natural Topaz with a high peak at 929 nm (green is our specimen)



Photoluminescence spectroscopy (green is our specimen)

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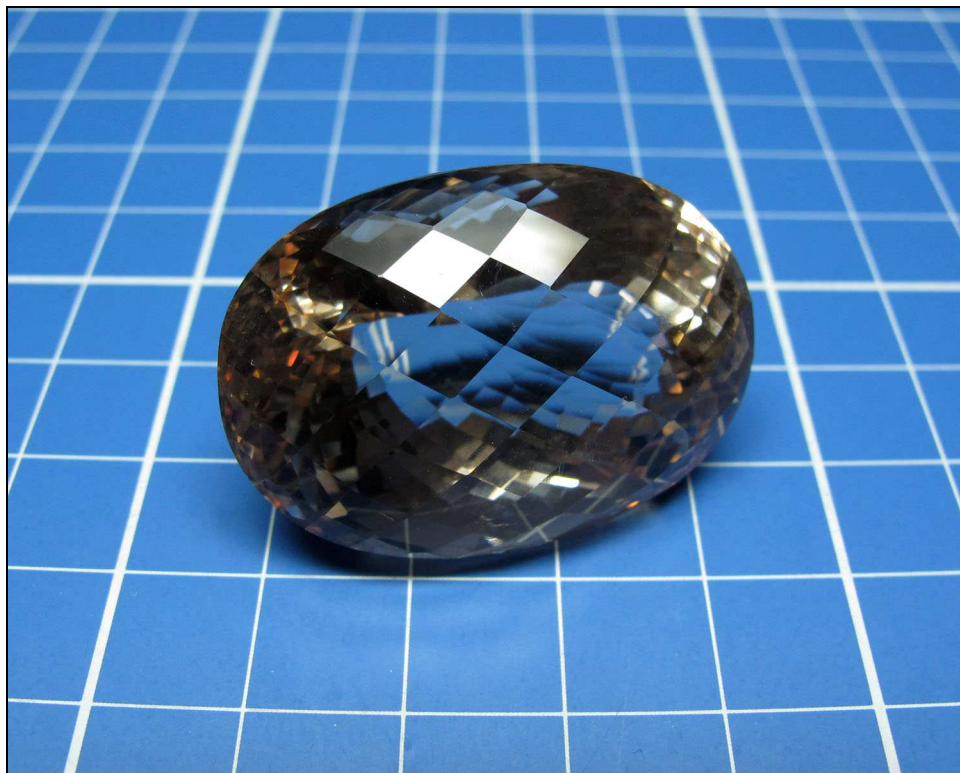
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Gemological Report XX4 / SAMPLE 4



photographed on blue centimetre board (with 6500 Kelvin overhead lighting) for size scaling

All colour, clarity and geographical origin statements are based on the findings of a trained and experienced certified gemologist using the latest equipment, but may nevertheless vary slightly from other laboratories. Opinions tend to vary, depending on known references, opinions by staff and advances in technological testing equipment. This Gemological report is not an appraisal or guarantee. Please note that gemstones may be treated at any time, therefore this report reflects the findings on the date the gemstone was tested. Geographical origin is only on request, and is noted when more than 80% accuracy can be guaranteed.

Soest / Date 05-03-2020

Reference Number: XX4 Example

Signed

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Gemological Report Ref. XX4 / SAMPLE-5

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This appraisal has been executed in accordance with German law, and has been done with the utmost care and in all conscience. All documented notations and photographs are archived for the owner for a period of minimum 5 years.

Equipment used

Gemological Microscope (Zeiss / Eickhorst Gemmaster LED)
Grading Light Eickhorst (5500 und 6500 Kelvin)
Spectroscope Krüss KL12-1504 (Optical) With Base
Dichroscope
Proportionscope
Idealscope
Refractometer Eickhorst SR 0.01
Reflectometer Hanneman
Diamond Tester Presidium & Others
Colour Grading Masterset D-P
Raman- und Photoluminescence Spectrometer (Laser 532 nm)
GemmoSphere UV-VIS-NIR Spectrometer
Stereo-Zoom Microscope by Krüss

Digital Diamond Guage
Various scales (Kern, Sartorius, Tanita)
Rough Diamond Callipers
Gold Testing Kit
GIA Daylight Dock
Diamond Loupe - 1/10 mm Scale
Polariscope
SSEF HPHT-Spotter
Gem Filters (Including Hanneman)
Short & Longwave UV Light (Eickhorst Multispec UV-AC)
10 x Lupe (achromatic and aplanatic) Leica, Zeiss, Swiss-Axe
Cold Light Source With Fibre Optics (By Peter Groeneboom FGA)
Canon G12 / Canon EOS 750 with Zeiss Tube Adapter

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