



**INTERNATIONAL
GEMOLOGICAL
INSTITUTE**

ELECTRONIC COPY

COLORED STONE REPORT

October 24, 2024	
IGI Report Number	647405346
Species	NATURAL TOPAZ
Variety	BLUE TOPAZ
Shape and Cutting Style	CUT CORNERED RECTANGULAR MIXED CUT
Weight	19.42 CARATS
Measurements	18.50 x 12.94 x 9.91 mm
Color and Transparency	BLUE, TRANSPARENT
Characteristics	NATURAL INCLUSION(S) PATTERN

Comments:
Blue topaz is commonly treated by irradiation followed by heat. Indicative evidence of treatment is typically lacking.



OPTICAL and PHYSICAL PROPERTIES

Refractive Index	1.619 - 1.627
Birefringence	0.008
Optic Character	BIAXIAL
Optic Sign	+
Specific Gravity	3.53

Optical and physical properties are approximate values



Photography is approximate

Species & Variety

Gems may be classified in different species, according to their basic chemical composition and crystal structure; within a certain species, small differences in composition may result in different colors, or varieties.

The way that light interacts with the gem may create some astonishing optical phenomena, such as a star, a cat's eye effect or change of color, in different varieties.

Transparency

As light passes through a gemstone, part of it, if not all, will be absorbed, and part will be transmitted. The more light that is absorbed the less transparent the stone will be.

Characteristics

Internal characteristics are the inclusions of a gemstone. Not only do they provide essential information about the formation but also the conditions in which the gemstone is grown.

Refractive Index

When light passes through air and enters a gemstone it slows down due to a difference in the medium. The ratio between the speed of light in air and in a particular medium is known as the Refractive Index.

Optic Character

Determining how light travels through the crystal. Using a range of specialized instruments, we will be able to establish if the stone is isotropic or anisotropic, uniaxial or biaxial.

Specific Gravity

Specific gravity is the ratio of the density of the gemstone to the density of an equal volume of water.

All IGI Laboratories employ a wide range of state-of-the-art equipment, which provides comprehensive and accurate assessment of different gemstones.

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