

## LABORATORY FINDINGS

Description 1 Loose Stone

Weight 4.53 ct

Dimensions 11.81 x 8.81 x 5.14 mm

Shape Oval

Cutting Style Faceted

Crown Modified Brilliant

Pavilion Step

Transparency Transparent

Color (Daylight) Purplish Red

Saturation Intense to Rich

Tone Medium-Deep

Enhancements H

ID →

NATURAL  
RUBY

ORIGIN

**Pakistan (Kashmir)**

Pakistan's Nangimali, Batakundi & Basil ruby & sapphire deposits in Azad Kashmir formed as part of the collision between the Indian subcontinent and the Asian mainland. Fine specimens are extremely rare.

Lotus Gemology is one of the world's most respected colored gemstone laboratories.  
This report is a professional opinion based on the results of scientific tests, coupled with the extensive experience of Lotus gemologists. The following pages contain information crucial to understanding the results.

Verify this report by referencing Report No. 4114-7019 with PIN No. 223424 at [LotusGemology.com](https://www.lotusgemology.com).

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# NEED TO KNOW

## enhancements

THE ENDURING VALUE of precious stones is a result of their beauty, durability and rarity. Due to this rarity, humans have created imitations (such as glass) and fully synthetic counterparts of natural gems. They have also treated natural gems to make them more valuable. Certain enhancements have been practiced thousands of years; others result from technological advances of the modern age. Please note:

- Enhancements are a basic part of the finishing process for most gems today. While unenhanced gems are the most sought-after, their tremendous rarity and high prices put them out of reach of all but the wealthiest of buyers.
- The marketplace sets the values of both natural and enhanced gems.

Because enhancements impact value, wherever possible, Lotus Gemology provides information on any/all treatments which are detected. Our approach is to give our customers the same information we would want when purchasing a gem.

No Enhancement	Explanation		Market Frequency	General Stability, Care & Handling
No indications of heating/treatment	No treatment whatsoever has been detected in this gem.		Less common	Excellent; no special care required
Enhancement	Code	Purpose	Market Frequency	General Stability, Care & Handling
Heat	H	Improve color and/or clarity	Common	Excellent; no special care needed
Heat + Fissure Healing	H-FH	Improve color/clarity and heal fissures	Common	Excellent; no special care needed
Heat + Diffusion of external coloring agents	H-D	Improve color/clarity and/or add asterism	Less Common	Good to fair; recutting may produce loss of color or star
Heat + Glass Cavity/Fissure Filling	H-GF*	Improve color/clarity and hide surface cavities	Less Common	Good to fair; filler may deteriorate with time, causing change in appearance
Irradiation	IR	Add yellow color	Rare	Poor; fades with exposure to light
Fissure Filling with colorless Oil/resin	FF-O*	Improve clarity and color	Less Common	Poor; filler may deteriorate with time, causing change in appearance
Fissure Filling with Dyed Filler	FF-DF*	Improve color and/or clarity	Less Common	Poor; filler may deteriorate with time, causing change in appearance
Coating	C	Improve color	Rare	Poor; coating may scratch or rub off
Lead Glass-type Hybrid	LGH	Improve clarity and color	Common	Poor; filler may deteriorate with time, causing change in appearance and durability
Assembled Stone	AS	In most cases, fraud	Rare	Poor; glue may deteriorate with time, causing stone to fall apart

\* Certain enhancements are rated for extent, on a 1–3 scale of Minor → Moderate → Significant.

# TLC

## caring for your precious stones

GEMS ARE AMONG THE MOST durable of nature's creations, but still require care to retain their beauty. Caring for your jewelry is a matter of common sense and simple precaution:

- Always remove your jewelry when engaging in activities that risk impact or exposure to chemicals or heat such as sports or housework.
- Always put jewelry on after using lotions, cosmetics, hair spray or perfumes, not before.
- Never remove your jewelry by pulling on the gems.
- The best way to store jewelry is in the compartments of a jewelry box or in pouches. Store each piece of jewelry separately and necklaces flat so that harder stones don't scratch softer ones. Almost every gem is harder than the metal in which it is set. Gems can scratch one another or the finish on your jewelry if stored carelessly.
- Carefully wipe jewelry with a soft lint-free cloth after each wearing to remove oils and salts.
- Clean your jewelry on occasion with a cleaning solution or mechanical cleaner suitable for the gem; use a dish rather than the sink, for if a gem accidentally falls out of the setting, down the drain it goes. When in doubt, just use warm soapy water and a soft toothbrush.
- Think twice before putting gems in an ultrasonic cleaner. Diamonds and rubies and sapphires are generally fine, but other gems may not be. When in doubt, leave it out.
- Opaque gems such as lapis lazuli, turquoise and malachite are porous and may absorb chemicals and soap, discoloring them. Thus they require special care. Never use ultrasonic cleaners, ammonia or chemical solutions. These gem materials should just be gently wiped clean with a moist cloth.
- Opals also require special care. Never use an ultrasonic, never use ammonia, and avoid heat and strong light that can dry out the water in opals.
- Due to their organic nature, gems like pearls, coral and amber are both soft and porous. Thus they should be simply wiped clean with a moist cloth. Be careful about chemicals in hairspray, cosmetics, or perfume; over time they can damage pearls in particular.
- Stones that have a Mohs hardness of 7 or less are subject to scratching; harder stones are less susceptible, but still subject to chipping and fracture.

# ABOUT LOTUS

## our philosophy

**L**OTUS GEMOLOGY begins with a simple idea – beauty is the principal source of attraction for precious stones. Thus it should also be the major focus of gemology. In other words, the gem is the most important part of GEM•ology.

Founded by gemologists Richard W. Hughes, Wimon Manorotkul, and E. Billie Hughes, Lotus operates from a base of close to a century of collective experience in the study, purchase, sale and appreciation of precious stones. Over time, we have come to realize that gemology is not simply counting atoms. Science is a method of organizing knowledge such that it can be rationally explained and reliably tested. And yet today's science cannot accurately explain or test certain phenomena. Which rainbow is the prettiest, what painting speaks to you, which person do you find most attractive? These are personal choices that can never be reduced to a simple set of measurements, anymore than the beauty of a sunset can be expressed by formula.

Rest assured, we are not Luddites. We not only appreciate science, but also use it daily. At the same time, we recognize that many parts of the human experience extend into realms beyond the ability of science explain or test. Thus the gemology at Lotus is wide, including not just science, but weaves into the mix history, culture, art and travel. We do this in the belief that these factors play important roles in how humans perceive desirability and value.

Precious stones are among the most compelling examples of Mother Nature's artistic genius. Our lives have been enriched beyond measure by our involvement with these gifts of nature and we believe if we characterize them with the appropriate reverence and care, we can open this magical world to others. This is our goal. The translation of the intangibles of rarity and aesthetic beauty is our strength.

Finally, like a small French restaurant, we believe that crafting a fine meal takes time and individual care; thus our seating is limited. But we are confident the result will be something special, just like these precious treasures we have the pleasure of working with.

# SUBSTANCE

## classic books by lotus gemology's gemologists

**W**ITH NEARLY a century of collective experience, the Lotus team has authored more than 200 papers on various aspects of gemology. We did not simply write the book on ruby and sapphire, we wrote the books, a collective body of work unsurpassed on the subject. In addition, we have designed, authored and edited other books on precious stones.



# TERMS OF REFERENCE

## limitations

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- Each report contains a description of the article tested based upon tests and techniques used by Lotus at the time of examination. Gemstones can be enhanced at any time after leaving our premises. If there are doubts about an item's current condition, please submit it for rechecking.

# GEOLOGY VS. GEOGRAPHY

## origin opinions

**W**HEN AND WHERE THE EVIDENCE warrants, Lotus issues an opinion regarding the probable geographic origin of the gem tested. Origin opinions are given solely at the discretion of Lotus. Clients should be aware that differences in opinion between one lab and another might arise. This is because the geologic conditions in one place sometimes overlap with similar conditions in other localities.

Even in laboratories possessing millions of dollars of equipment, the most important evidence for origin determination is generally collected via the simple gemological microscope. It is the experience of the gemologist with the microscope that largely determines the accuracy of origin reports.

In short, origin determination is not an exact science, and depends greatly on the experience of the individual gemologists doing the testing. The gemologists at Lotus have been involved with precious stones for many decades, including visits to many of the major deposits around the world.

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