

## TERMS AND LIMITATIONS:

The payment of the analysis and reporting fees constitutes an acceptance of the following:

This analysis report is the result of the conclusions reached by two specialists who have each carried out analyses based on our protocol, and have both come to the same results.

We mention all the treatments we were able to reveal in the frame of our analytical protocol.

Conclusions issued by AIGS laboratory attest to the identification of the material at the time of the expertise report, they do not take into consideration any subsequent treatment that the material could undergo after the expertise.

The Client agrees to be responsible for, and to hold AIGS and its employees and agents harmless from any injury, loss, damage or destruction of articles entrusted for examination while in the possession of AIGS, resulting from any cause whatsoever not caused by the proven negligence of AIGS or its employees.

The geographical origin is given only as an opinion, and refers only to the similarities of the physical and chemical characteristics observed on the analyzed sample(s), and the data generally available on deposit samples known at the time of the analysis.

Unless it is required by a legal entity, AIGS laboratory is not bound to justify its methods, technical reasoning or any other means deemed opportune to reach its conclusions.

The laboratory does not assume any responsibility regarding the long-term stability of the color of the samples analysed.

None of the conclusions in reports issued by AIGS laboratory represents either a guarantee or an appraisal of the analyzed gemstone(s).

Wording and grades mentioned in AIGS reports may differ elsewhere depending upon the place (country), when, how and by whom the article is graded.

AIGS laboratory reserves the right to refuse to issue a report on any gemstone at any time, without having to justify itself.

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Any dispute or litigation related to the documents or services, of any nature whatsoever, supplied by AIGS laboratory will fall exclusively within the jurisdiction of the Kingdom of Thailand.

## AIGS Laboratory Disclosure Comments for Colored Gemstones

### Ruby and Sapphire heat treatment terminology\*:

Condition	No indication of heating	Indication of heating with minor modifications (no residues)	Indication of heating (no residues)	Indication of heating with residue in fissures					
Report Alpha numeric	NTE	MTE	TE	TE1	TE2	TE3	TE4	TE5	
Report Text	No indication of heating	Indication of heating at moderate temperature	Indication of heating	Minor residue in fissures		Moderate residue in fissures		Significant residue in fissures	
<b>TE = Thermal enhancement</b> <b>NTE = No thermal enhancement</b> No indication of heat treatment: NTE Indication of heat treatment: TE Indication of heat treatment: TE1, TE2, TE3, TE4 and TE5 Indication of heat treatment: C1, C2 and C3				<b>Condition</b> Indication of heating with residue in cavities					
				<b>Report Alpha numeric</b>		<b>C1</b>		<b>C2</b>	<b>C3</b>
				<b>Report Text</b>		Minor residue in cavities	Moderate residue in cavities	Significant residue in cavities	

### Variation when both fissures and cavities contain glass:

Indication of heat treatment: TE2, C1 or C2, ...

**TE: Indication of heating:** Basic heat treatment, with no residue detected within cavities and/or fissures of the ruby or sapphire.

**MTE: Indication of heating:** Traditional heat treatment at moderate temperature, without the use of flux, not altering the inclusions, only bringing to the stone (ruby or sapphire) an enhancement of the color. This treatment is only detectable by infrared spectrometry.

**(HPHT): Indication of HPHT treatment:** Rubies and sapphires that have been subjected to high-pressure-high-temperature treatment are described as such.

**(Lead/Bismuth): Indication of lead or bismuth-rich glass in fissures:** Vitreous residue was encountered with indication of lead glass/bismuth glass in fissures.

**Assembled ruby:** When the edges of cracks do not coincide each other and that the integrity of the stone is only due to the presence of the vitreous substance that holds the pieces together, usually by lead-rich glass.

**(SD): Surface diffusion:** The corundum's color has been altered via a surface diffusion process; whereby coloring elements have been allowed to penetrate the stone to a minute depth. While this artificial color is stable, it may be removed during any subsequent re-cutting and/or re-polishing, except for the titanium deep diffusion.

**(Light elements): Light elements diffusion:** The item's color has been subtly or significantly modified via a bulk diffusion process, whereby beryllium has been penetrated through the stone. This color is stable. Detection using LIBS causes near-undetectable marks at the stone surface (on the girdle). This test will be applied on Ruby and Sapphire, for yellow, orange, orange-red and green tint, but also on blue sapphire suspected of having been too dark in color, and lightened by a multi-step process involving the diffusion of light elements. For heated blue sapphires, a LIBS test will be performed only upon customer's request.

**Fade test:** For yellow and orange sapphire, sapphire with combinations of yellow or orange and orange-red ruby, a fade test may be carried out to determine its color stability. This test can indicate irradiation treatment in particular gemstones. Only with the customer's written permission.

### Jadeite

**A-Jade:** No indication of enhancement beyond traditional and basic room temperature waxing (during the polishing process).

**B-Jade:** Indication of bleaching and subsequent polymer impregnation.

**C-Jade:** Indication of dyeing, after bleaching and subsequent oil or polymer impregnation.

**C-Jade (variation):** Indication of dyeing without detectable oil or polymer.

### Emerald

Clarity enhancement may be classified as "insignificant", "minor", "moderate", "significant" or depending on the amount of filling substances detected within the tested item's surface-reaching fissures and/or cavities.

Identification of filling substance (oil and/or resin) is systematically carried out, and will be stated in the report.

**Some of the following treatments may not be detected with sufficient reliability by current gemological tests. In this case, the presence or absence of these treatments will not be specified in our report.**

### - Heated or irradiated stones that are frequently accepted in the trade:

Spodumene, beryl, zoisite (tanzanite), tourmaline, topaz, zircon, quartz.

### - Paraiba-type tourmalines are usually heated.

### - Stones that are commonly chemically treated:

Dyed chalcedony, jadeite of other colors than green.

### - Sugar-acid, smoky and dyed treatment testing for opals is not currently conducted by this laboratory due to testing condition constraints.



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