Information Sheet #1

Standardised Gemmological Report Wording

Corundum

- **with residues from the heating process present in healed fissures**
- **with residues from the heating process present in filled cavities**

Members of the Laboratory Manual Harmonisation Committee (LMHC) have standardised the nomenclature that they use to describe heat treatment in corundum and the degree to which fissure "healing" has occurred, and the residues that remain within the healed fissures and cavities, following the heating of corundum.

Healed fissures[1]:

Any corundum that shows indications of having undergone heat treatment and a degree of healing along (previous) fractures - see Figure 1 - which also contain a residue(s) from the heating process, shall be described as

Identification

- Species: **(Natural)[2] corundum**
- Variety: **Ruby or Sapphire**

Further information

Indications of heating' (to modify the colour and/or transparency of the stone)**,** plus the appropriate residue quantification terminology – **alpha numeric and/or text description[3]**. See table 1 and examples in figures 2, 3 and 4.

Note 1: As an option, e.g., for "simplified reporting" situations, the quantification of residues in healed fissures may be replaced by the statement **'residues in healed fissures'**.
Note 2: Wording in parenthesis is optional.
Note 3: This clause may include the presence of **small** filled cavities.

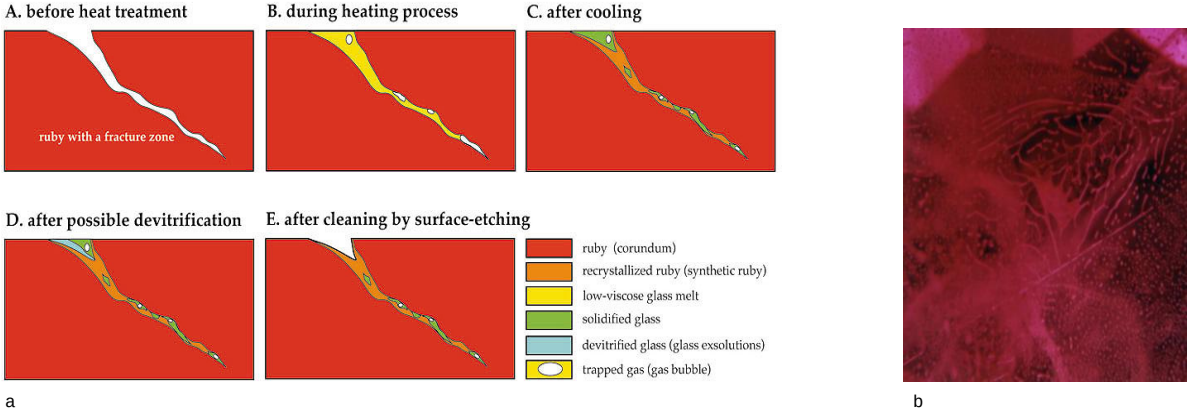

Figure 1: Flux assisted healing of a fracture during the heating process. A fracture that has been healed by the synthesis of Corundum or other materials during the heat treatment or crystal growth processes. (Hänni, H.A., 1998) (a) schematic (b) actual

Table 1: Residue quantification terminology

Condition →	No indications of heating	Indications of heating (no residue)	Indications of heating with residues in healed fissures				
Report Alpha numeric →	NTE	TE	TE1	TE2	TE3	TE4	TE5
Report Text →	No indications of heating	Indications of heating	Minor residue in healed fissures		Moderate residue in healed fissures		Significant residue in healed fissures

Condition →	Indications of heating with residues in cavities		
Report Alpha numeric→	C1	C2	C3
Report Text→	Minor Residue in cavities	Moderate Residue in cavities	Significant Residue in cavities

[1] (see Information Sheet #3 for "corundum with glass filled fissures" and subsequent "corundum with/and glass")
[2] Wording in parenthesis is optional.
[3] In the cases of TE1 and TE2 (minor) or TE3 and TE4 (moderate), when the text version is selected a reference to the specific alpha-numeric shall be indicated either by combining the two or placing an « x » in the appropriate point of the comparative scale.

Members of the LMHC determine which of the residue quantification terminology to use (see table 1) taking into account the size and position of each healed feather and the nature of the residue that remains. This residue may be comprised of structures ranging from a fine bubble-like network with very little 'thickness' to numerous lake-like structures that may have a considerable thickness (see examples in figures 2, 3 and 4).

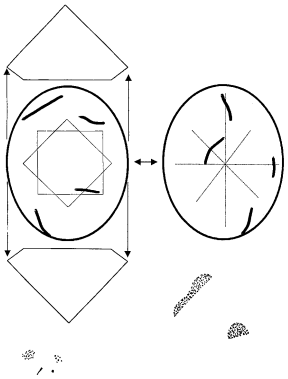

Figure 2: Minor residue (TE1) in this example consisting of fine bubble-like structures

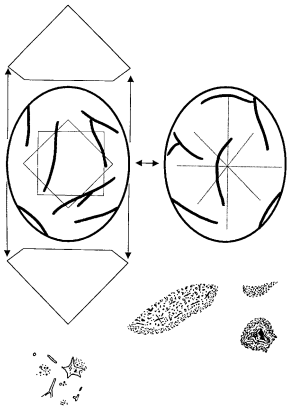

Figure 3: Moderate residue (TE3) in this example consisting of coarse bubble-like structures and films

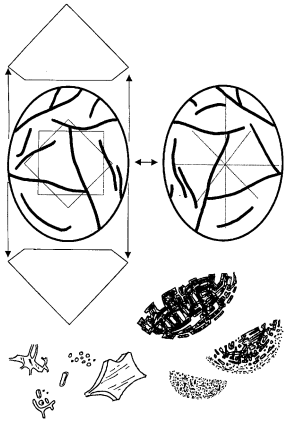

Figure 4: Significant residue (TE5) in this example consisting of coarse and thick film-like structures

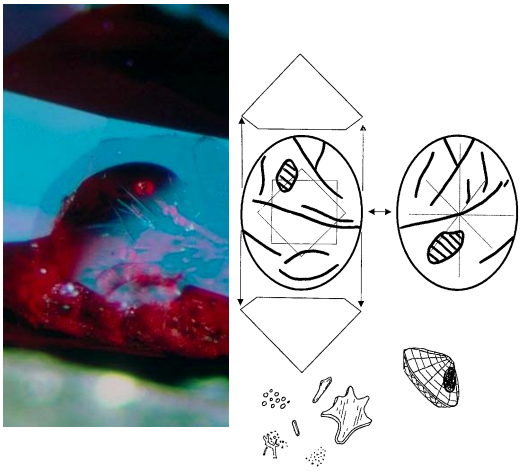

Figure 5: Significant residue (TE5) in this example consisting of coarse and thick film-like structures together with a large glass-filled cavity (C3) (example image left)

Filled cavities:

Any corundum that shows indications of having undergone heat treatment and the presence of a vitreous residue in a cavity(ies), shall be described as

Identification

- Species: **(Natural)[1] corundum**
- Variety: R**uby or Sapphire**

Further information

Indications of heating' (to modify the colour and/or transparency of the stone)**,** plus the appropriate quantification terminology - **alpha numeric** and/or **text description**.
Table1 outlines the use of the designated alpha numeric or text descriptions and figure 5 gives an example of a typical situation.

[1] Wording in parenthesis is optional.