Bellerophon | Gemlab

ANALYTICAL PROTOCOL CORUNDUM "GEMTESTING"

IDENTIFICATION

Mendatory data collected & available for every item -> FTIR & PL 313nm --- Optional data collected: PL 532, Raman spectrosocopy, RI & SG
Conclusion base " Correlation Analysis"--- Pass/Fail : **censored** --- Coefficient; **censored**

Stat- available: Known samples: 2218 pcs (blind test ref No. 008C) --- Pass (mendatory data) 1656 pcs --- Pass (optional data) 561 pcs --- Fail 1 pcs (1.1mm)

[CORUNDUM]

GENESIS

Mendatory data collected & available for every item -> EDXRF --- Optional data collected: Visual Microscopic Examination, Fluorescence (LW & SW)
Conclusion base "Chemistry: Qualitative Analysis and/or Semi Quantitative Analysis"--- Pass/Fail : **censored** --- Coefficient; **censored**
Keys trace elements: **censored**--- Binary ratio: **censored**--- *appendix CGNVS*
Stat- available: 3mm Red corundum: (Blind test ref No. RM3G) Natural detected 94% --- Synthetic detected 73% --- unknown 32%
BT No. RM3G: 100 Natural vs 100 flame fusion

[NATURAL]   [SYNTHETIC]

SYNTHETIC

From the MELT: Flame Fusion, Pulled & Bridgman
From a SOLUTION: FLUX -> Pb based, W based, Na based --- HYDROTHERMAL -> H2O based
IMPORTANT NOTE: Overlapp from LEAD based flux & Glass filled corundum for "melee gemstone" refere to **DMU07**

[FLAME FUSION]   [FLUX]   [HYDROTHERMAL]

ENHANCEMENT

Mendatory data collected & available for every item -> none --- Optional data collected: Visual Microscopic Examination, Fluorescence (LW & SW) & LIBS
Conclusion base "Chemistry: Qualitative Analysis & IR:"--- Pass/Fail : **censored**
Keys trace elements: **censored**--- Keys cm-1 peaks: **censored**--- *appendix CENH*

IMPORTANT NOTE: low thermal treatment might not be detectable, Borax & Lead not quantified.
Beryllium: "AGA" (Against Gemmological Advice) form must be signed below 3mm size

[NH/H/Unknown]   [H-D(*)]

VARIETY

Data collected: Visual Examination and/or UV-vis colour analysis CIELAB
Conclusion base l* a* b* optional

see appendix *Colour System Bellerophon*

[RUBY]   [SAPPHIRE]   [FANCY SAPPHIRE]

GEOLOGICAL ORIGIN

Optional data collected:
Uvvis

see appendix *CGO*

[Marble Type] [Metamorphic] [Basaltic Related] [Metamorphic] [Basaltic]