

### Analysis report

Pelt, 2020 August 15<sup>th</sup>

Commissioned by

Concerning: Golden ring with hand-carved niello Christ figure.



**Analysis by EDXRF (Energy Dispersive X-Ray Fluorescence spectrometry):**  
 System: Innov X alpha 2000A-8248

Verification analyzes vs. References		Fe	Ni	Cu	Zn	Pb	Sn
Reference Claydon standard # 18	Brass	0.14	12.31	58.68	27.50	1.37	
	Meas. Innov X 12.08.2020	0.14	12.33	58.71	27.45	1.35	
Reference Claydon standard # 19	Bronze			93.80	0.40		5.80
	Meas. Innov X 12.08.2020			93.77	0.43		5.77

Measurements:

Measurement point	Cu	Au	Ag	Fe	S
	%	%	%	%	%
Disc frontside(*)	7,56	67,9	24,1	0,34	2,14
Ring outside 1	6,38	75,4	18,3	≤0,05	-
Ring outside 2	6,41	75,8	18,1	≤0,05	-
Averages of the gold	6,40	75,6	18,2	≤0,05	-

Other elements: ≤0,05%

(\*)The Christ figure with the inlay of niello (presence of silver, copper, sulfur, and iron).

#### Reference:

Publ.

Gold bull.- March 1986, 19(1) p. 24

Byzantine gold coins and jewelry- A study of gold contents, Andrew Oddy & Susan La Niece  
Dept. Research laboratory, British Museum, London, United Kingdom

Ref.

BM: AF388 Earring with cloisonné enamel, early 10<sup>th</sup> century AD

Au 76,8% Ag 18,5% Cu 4,8%

#### Statement

None of the analyses give rise to a suspicion of forgery or contemporary copy.

This gold alloy with high silver and copper content has also been found in British Museum Byzantine jewelry from the early 10<sup>th</sup> century.

The analysis of the front side gives a higher presence of silver, copper, sulfur, and iron due to inlay of niello, frequently in use during that period.

**This statement is an opinion and therefore gives no right to redress or liability of any kind.**

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RJM. Bové

