FILTER VOLTAGE AND CURRENT FOR XRF SPECTROSCOPY USER GUIDE FOR ANALYZING COMMON ELEMENTS PRESENT IN PHOTOGRAPH AND PAPER COLLECTIONS

XRF IDENTIFICATION OF SILVER

Element: Ag

1. Insert green filter
2. 45 kV
3. 12 micro amps
4. No vacuum

XRF IDENTIFICATION OF PLATINUM

Element: Pt

1. Insert green filter
2. 45 kV
3. 12 micro amps
4. No vacuum

XRF IDENTIFICATION OF GOLD

Element: Ag

Useful when analyzing photographs to observe presence of gold toning

1. Insert green filter
2. 40 kV
3. 12 micro amps
4. No vacuum

XRF IDENTIFICATION OF PALLADIUM

Element: Pd

1. Insert green filter
2. 45 kV
3. 12 micro amps
4. No vacuum

XRF IDENTIFICATION OF IRON

Element: Fe

Useful when analyzing cyanotypes and toned gelatin silver photographs (exhibit bluish tint)

1. Insert yellow filter
2. 40 kV
3. 1.0 - 4.0 micro amps
4. No vacuum

XRF IDENTIFICATION OF SULFUR

Element: S

May be useful when comparing albumen photographs to lightly albumenized salted paper prints. May be used to indicate sulfur-toned gelatin silver prints.

1. Insert blue filter
2. 15 or 20 kV
3. 15 or higher micro amps
4. Use vacuum
5. Attach helium cap

XRF IDENTIFICATION OF BARIUM

Element: Ba

Useful when analyzing photographs to observe presence of baryta layer; may be useful when calculating barium/strontium ratio to determine source of barium to help date photographs

1. No filter
2. 15 kV
3. 15 micro amps
4. Vacuum

XRF IDENTIFICATION OF LEAD

Element: Pb

Common additive to adhesives; lead white paint

1. Insert red filter
2. 40 kV
3. 4.0 to 8.0 micro amps
4. No vacuum

XRF IDENTIFICATION OF MERCURY

Element: Hg

1. Insert green filter
2. 40 kV
3. 12 micro amps
4. No vacuum

XRF IDENTIFICATION OF SELENIUM

Element: Se

Useful when analyzing photographs to observe presence of selenium toning

1. Insert yellow filter
2. 40 kV
3. 1.0 to 4.0 micro amps
4. No vacuum

XRF IDENTIFICATION OF TITANIUM

Element: Ti

1. Insert yellow filter
2. 40 kV
3. 1.0 to 4.0 micro amps
4. No vacuum

XRF IDENTIFICATION OF URANIUM

Useful when analyzing yellow toned photographs for presence of uranium toning

Element: U

1. Insert red filter
2. 40 kV
3. 4.0 to 8.0 micro amps
4. No vacuum

XRF IDENTIFICATION OF COPPER

Useful when analyzing reddish-tinted photographs for presence of copper toning
Element: Cu

1. Insert yellow filter
2. 40 kV
3. 1.0 to 4.0 micro amps
4. No vacuum