Alfred Stieglitz (American, 1864–1946)

Georgia O'Keeffe - Feet

1918
Palladium print
Alfred Stieglitz Collection

AIC accession number: 1949.746

Stieglitz Estate number: OK 5C

Inscriptions: Inscribed recto, lower left, left of image, in graphite: "X"; recto, lower left, left of image, in graphite: "[three diagonal lines]"; recto, lower right, right of image, in graphite: "[four perpendicular lines]"; inscribed verso, lower right, in graphite: "Ch - OK 3C"

Dimensions: 24.4 x 19.5 cm (image); 25.1 x 20.2 cm (paper)

Print thickness: 0.294 mm

Surface sheen: Low gloss (3.9 GU @ 85°)

Paper tone: L*90.28, a*1.78, b*17.2

Mount: Original; with original presentation window mat

Mount tone: L*91.7, a*1.79, b*14.21

Ultraviolet-induced (UV) visible fluorescence (recto): None

X-ray fluorescence (XRF) spectrometry:
See below

Fourier transform infrared (FTIR) spectrometry: N/A

TECHNICAL SUMMARY

This photograph is a palladium print. It is adhered at the top corners to its original cream mount and is engaged in the original window mat. The window masks the black margins of the print, which are the result of contact printing from the negative. Whether accidental or intentional, the print has been overexposed to light, resulting in some of the high-density dark areas becoming brown and the bright, low-density areas becoming gray. This process is referred to as solarization.[1] The inscription "OK 3C," at the bottom left corner of the original mount, correlates to the estate or "Leica" number that Georgia O'Keeffe and Doris Bry assigned to mounted prints from the same negative that were in Stieglitz's possession at the time of his death. When the surface of the print is viewed under high magnification, the fibers from the paper are visible and the image sits directly on the fibers, with no intermediary binder. The print does not fluoresce when exposed to long-wave UV radiation. Palladium, iron, mercury, and trace amounts of lead were detected using XRF spectrometry. Common to palladiotypes, the residual presence of light-sensitive iron ions could be due to improper washing of the print after processing. The presence of lead could have two sources: while lead could have been used during fabrication of the photographic paper itself, it was also commonly used during the processing of palladium prints, to increase uniform development. The presence of mercury could be the result of the artist's use of mercuric chloride during processing, to create the print's warm tones.

[1] Refer to the glossary for a full description of the solarization process.

X-RAY FLUORESCENCE (XRF) SPECTROMETRY

XRF spectral readings were taken from the recto of the work and from the mount when available. The elements listed below have been positively identified in the work; elements in bold have been attributed to the processing of the print.

Print: **Fe**, **Pd**, Hg, Pd

Mount: Ti, Mn, Fe, Cu, Zn, Sr

The graph below shows XRF spectra for three distinct measurement areas on the print: the darkest, maximum-density image area (Dmax, purple); the lightest, minimum-density image area (Dmin, green); and the mount, when available (orange). The background spectrum (gray) represents the characteristic contribution of the instrument itself as measured on a Teflon reference and is included in order to discount irrelevant elements from the print's signature. Elements were identified based on the presence of their characteristic peaks. Analysis was performed with a Bruker/Keymaster Tracer III-V+ energy-dispersive handheld XRF analyzer, equipped with changeable Ti and Al filters and a Rh transmission target. Measurements were taken for 120 or 180 LT at 40 kV and 10 µA. The spectrum below illustrates the significant peaks for this print in the energy range from 5 to 15 keV.

Figure 1. (right)
Locations of XRF measurements

Figure 2. (below)
XRF spectra from the Dmax, Dmin, mount, and background signal produced by the analyzer.