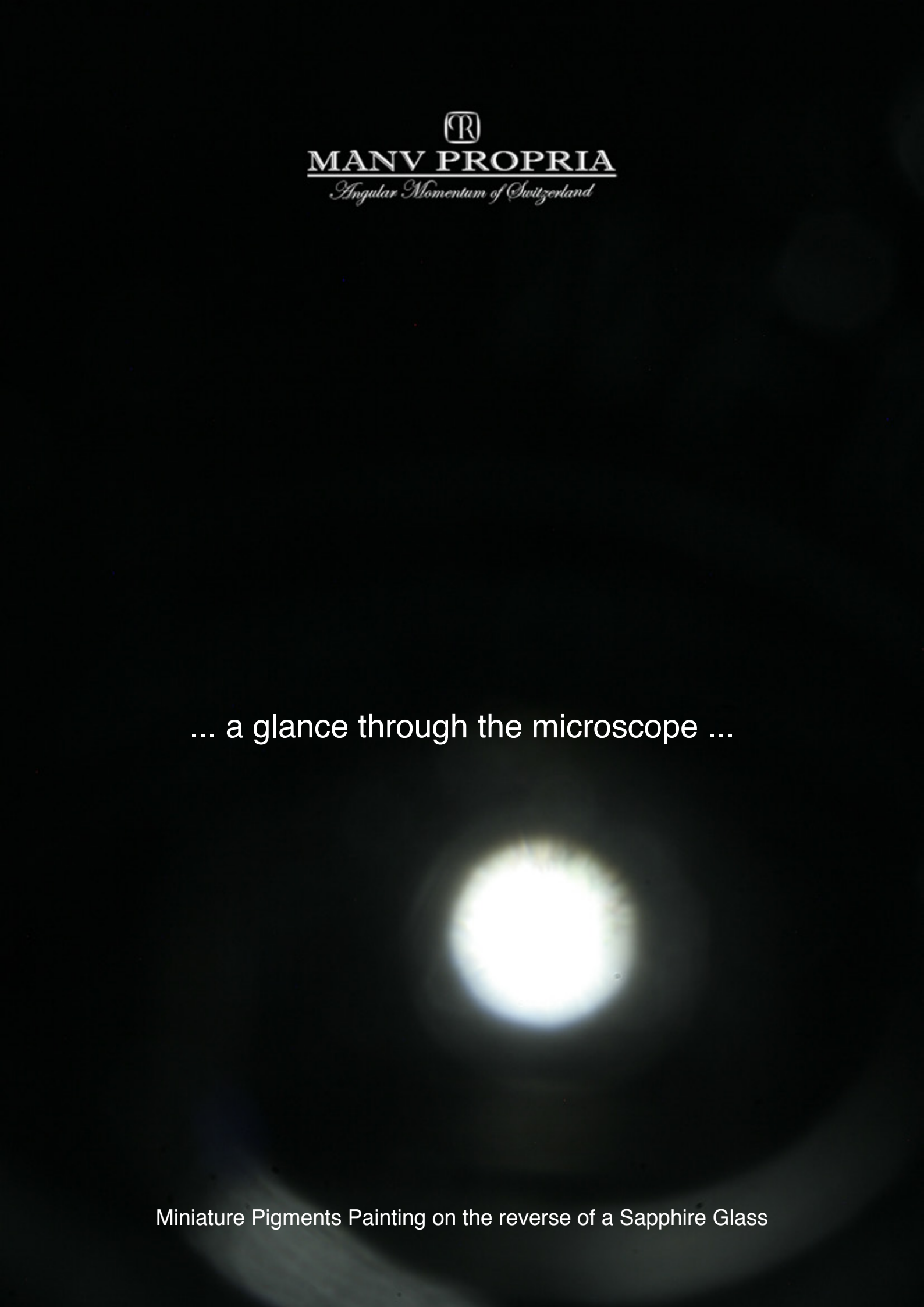
MANV PROPRIA

Angular Momentum of Switzerland

... a glance through the microscope ...



Miniature Pigments Painting on the reverse of a Sapphire Glass

Montre Verre Èglomisè
Feeding the Rabbits & Ducks

Staybrite steel case, crown with cabochon Onyx, historical, mechanical hand-winding movement, caliber Fontainemelon FHF 96, case caliber 39.00 mm. A Verre Èglomisè Miniature on the reverse of the sapphire crystal. The picture is made after enamel miniatures executed on pocket watches, made for Oriental and Chona market circa 1820, Geneva.

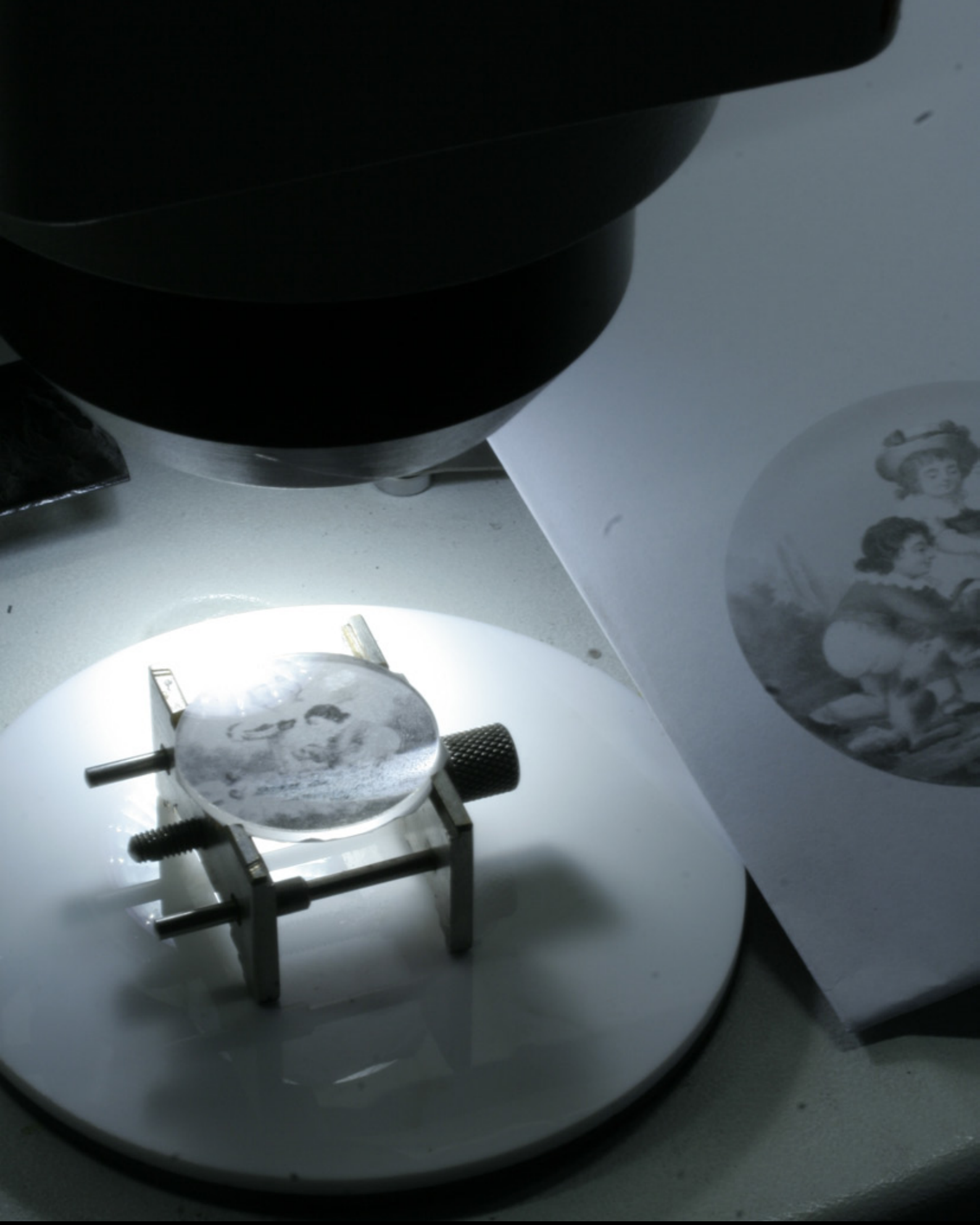
For executing a Verre Èglomisè Miniature, we use a number of tools and material. Special Oil, finely ground and calibrated natural pigments, Brass tools with extremely thin steel needles. These tools are made by the artist.

Black color pigments, Red color pigments, oil, Also regular oil paint can be used. Pigment mixed with oil

Microscope with a Magnification of 20 to 40 x, J-Various brushes (synthetic brushes are considered as best), Aqua Regia oil. *Kings Water (aqua regia) is a mixture of 3 parts Hydrochloric acid and 1 part concentrated nitric acid. With aqua regia also precious metal preparations for porcelain and glass painting are produced.*

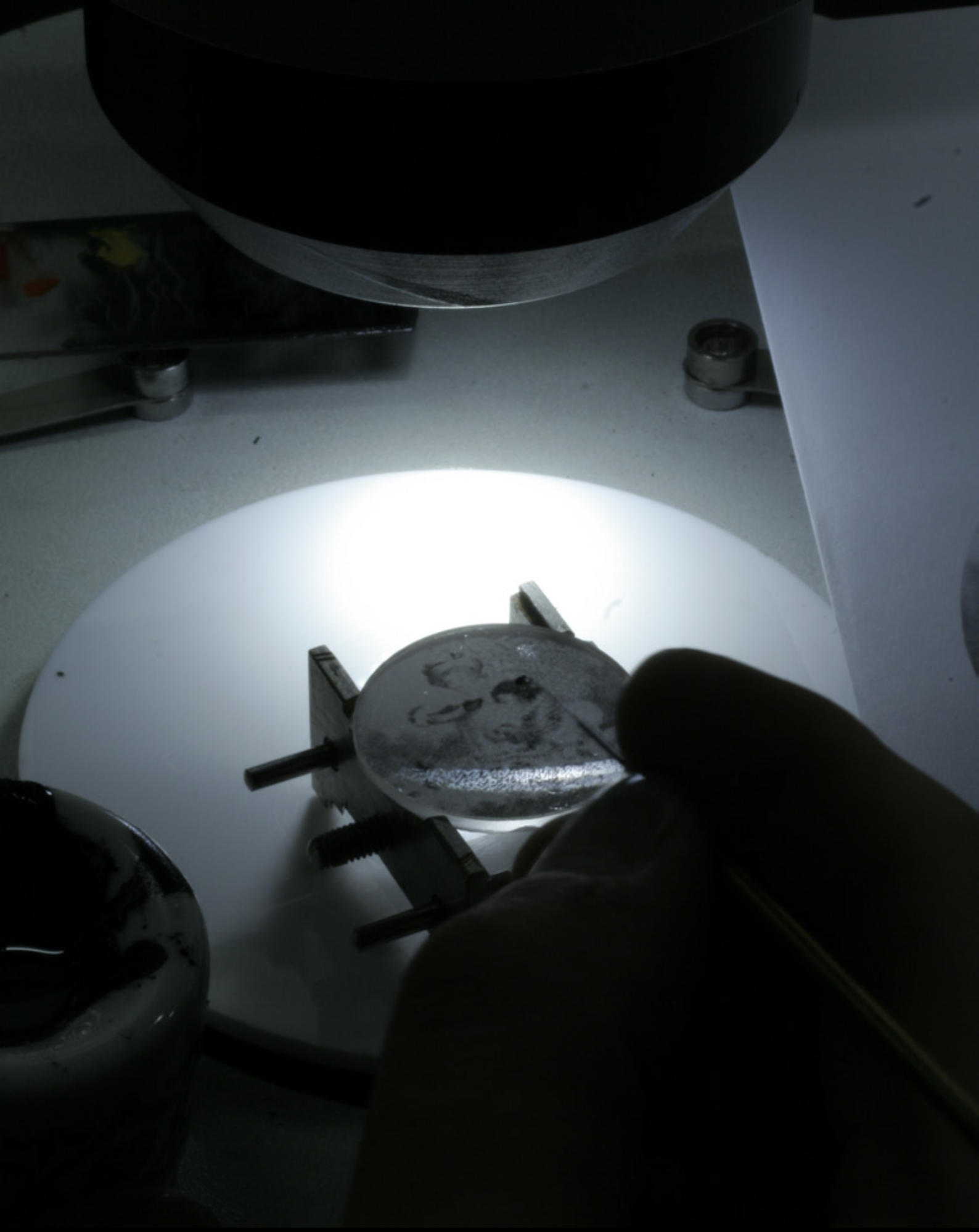
In a first step, the sapphire crystal must be cleaned, first boiled for one hour in Hydrochloric acid. In a second step the crystal is cleaned under clean water and then kept in the oven at 250°C over night.

After the sapphire crystal is cleaned as described above, a mirrored paper copy of the image is printed. Its a black and white copy which is fixed on the front of the crystal preferrably with simple spray mount.

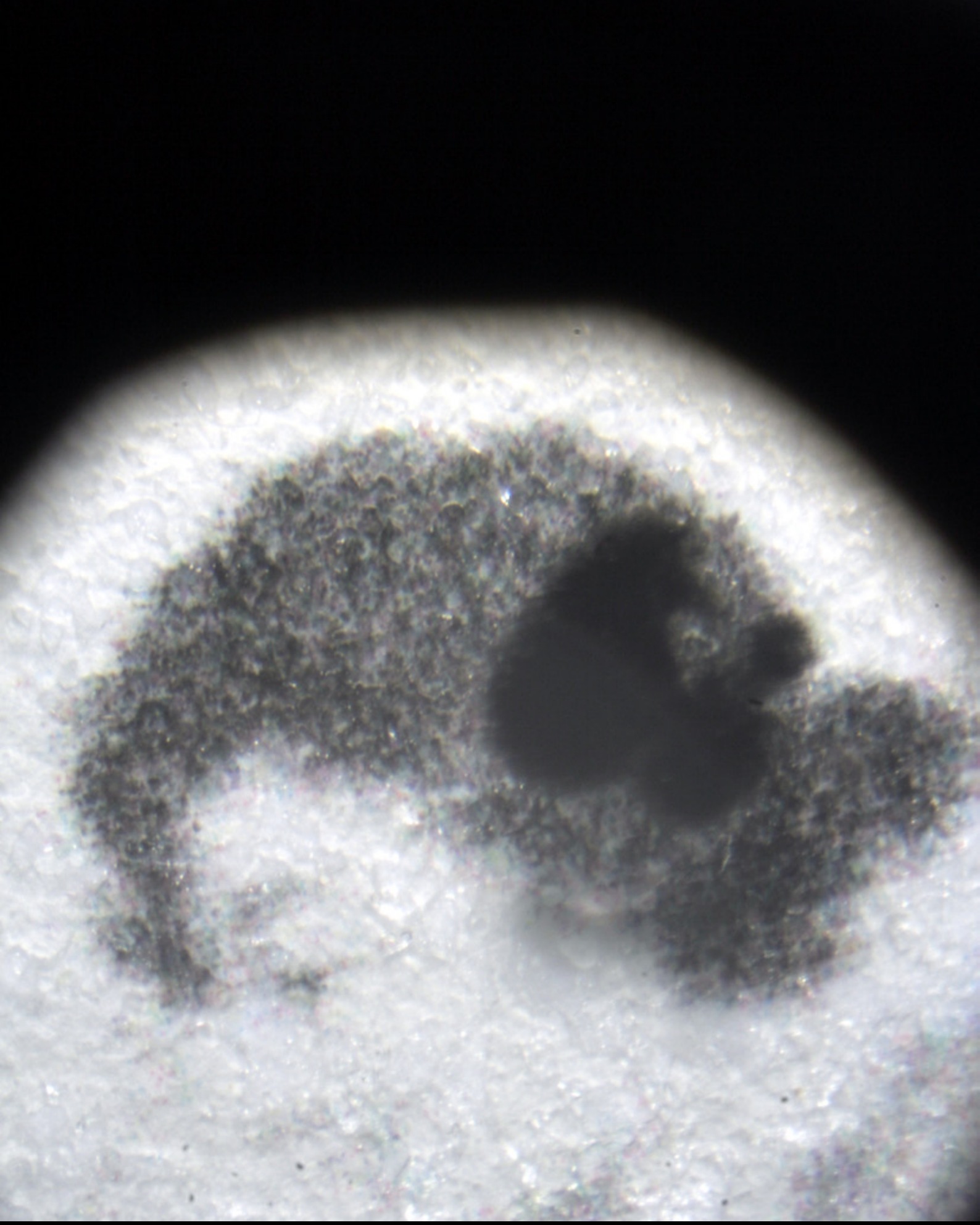


Then the crystal is fixed back side up in a holder and placed under the microscope.

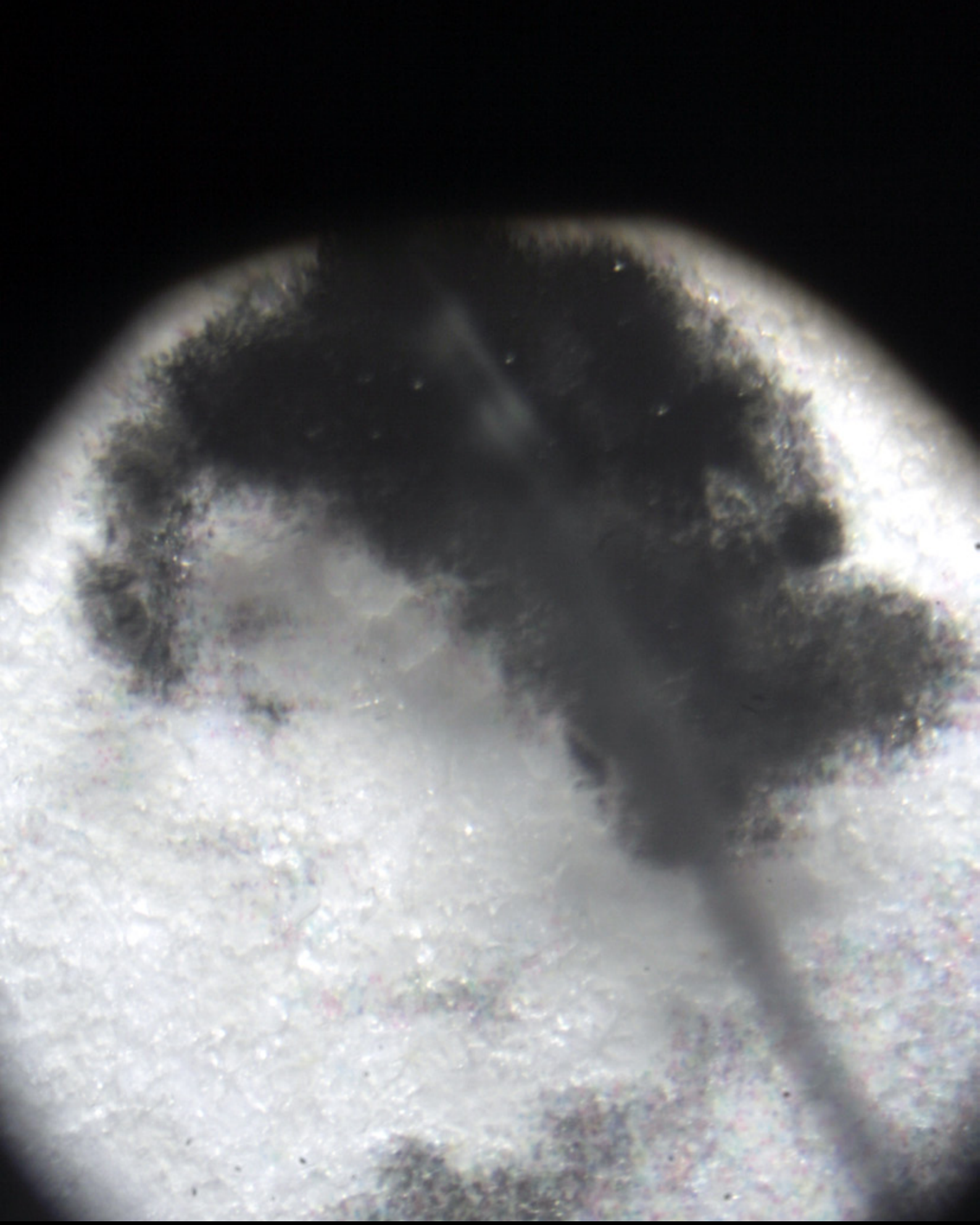
With a bush, a thin layer of oil is applied on the whole surface of the sapphire



After the oil has set, black natural pigmnts mixed with oil are distributed over the printed copy transparently or opaque just as needed.



Since the lens of the microscop is positioned vertically over the image, the pigments can be set very prcisely. The black pigments have been calibrated extremely finely.



Since the black pigments „swim“ in the oil, pigments can be moved, removed, diluted or thickened easily.

After the work with the black pigments is finished, the sapphire is laid horizontally under a glass Protected from dust. It takes the oil and pigment around one day to set.
During this rest period the pigments fall to the surface of the glass and parts of the oil evaporate.

After the pigments have set, the picture can still be refined or optimized by working on it with pins, sticks, removing or adding pigments.

The sapphire crystal shown from the front side after black pigments have set

After the work with the black pigment is finished, the sapphire crystal is heated in an oven.
The temperature shall be around 100 and 120°C. It will take many hours until the oil has dried completely.

Then the colors are set over the dried black base. Before setting the colors, first a thin layer of oil is applied to the entire surface. Then pure primary color pigments - Yellow, red, blue - can be mixed in oil and applied on the picture, over the black layer.

Also regular oil colors can be used if necessary

After the color pigments have set, the sapphire crystal is again put in the oven until the oils have completely dried.