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Conservation of Cultural Heritage

TREATMENT REPORT

October 8, 2019

“Grand Canyon of the Colorado and Southern Cliffs of Utah”

OBJECT DESCRIPTION:

- Plaster Relief Map; Howell, circa 1876
- 75 5/8" W X 74 3/8" H
- Plaster, paint, wooden decorated (lettering) frame

OBJECT CONDITION:

- Fair, appeared to be structurally sound.
- Heavy surface dirt, test cleaning with aqueous based artificial saliva successful.
- Active flaking paint with numerous areas of paint and plaster loss.
- Legend area appears to have been re-painted with a later discolored over-paint.
- Ultra Violet fluorescence (faint green) indicated a natural resin clear surface coating
 - **Solvent Tests:**
 - Acetone: negative
 - Ethanol: positive
 - Aliphatic hydrocarbon (mineral spirits): negative

The surface was scanned with a metal detector and results suggests there is no woven metal substrate. However, several areas did prove positive suggesting some metal mounts.

TREATMENT SUMMARY:

Plaster Map surface:

- All of the edges of paint loss were stabilized (along with the bare plaster areas) with Lascaux Medium for Consolidation (*A finely dispersed, aqueous dispersion of an acrylic copolymer*).
- Some small areas where the paint was detached, a heated tacking iron was used to reactivate the consolidation medium in order to lay the raised areas flat.
- The surface dirt was removed using an aqueous solution of artificial saliva
 - *distilled water; citric acid; Triethanolamine; Triton XL80N*
 - *methyl cellulose (4000 cps)*
 - *pH was adjusted to 7 (note: original formula adjusted to 8.5 proved to be too aggressive)*
 - Surfaces were cleared with distilled water.

- The areas of plaster loss was filled with a cellulose based fill material (*PolyFilla; calcium carbonate in a styrene-acrylate based polymer*) and sealed with B-72 before in-painting.
- Once cleaned, the entire surface was sealed with a 10% solution of B-72 in xylene.
- The in-painting used Maimeri Restoration Colors (*reversible with aliphatic hydrocarbons*)
- *Cerulean Blue* was not available in Maimeri colors and was substituted by Gamblin Conservation Colors. (*Gamblin Conservation Paints are high-quality pigments in an easily-reversible, low-molecular weight resin binder.*)
- Some acrylics were used for very small touch area in the colorful canyon areas.
- A final clear coat was sprayed over the newly in-painted areas to blend with the surrounding areas.

It should be noted that there were large areas of previous over-paint that were left in place. Plus numerous previous touch-up presumably made when the surface has its original information changed. These were also left in place. A small "graffiti" was removed.

Wooden frame:

The surface was cleaned with the same artificial saliva solution used on the map surface (see above). Once cleaned, the surface was treated with a French Polish style technique using only ethanol to amalgamate the crazed resin coating. The entire resin surface was coated with 10% solution of B-72 in xylene.



POST-TREATMENT