



## Questioned Documents Section - 2012

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### J6 The Challenges of Examining Liquid Soaked Documents

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After attending this presentation, attendees will be aware of the challenges when handling, examining, and preserving documents that have been liquid soaked or previously liquid soaked.

This presentation will impact the forensic science community by providing useful information on the challenges in handling liquid soaked documents or rehydrating liquid soaked documents that have dried in an unusable state.

There are numerous conditions in which a disputed document may be found and the impact that these may have on an examination requires that they each must be dealt with individually. This presentation will offer a glimpse into the limitations, but ultimate success, of one case in which a previously soaked document was reconstructed and examined. Liquid soaked documents for the purposes of this presentation are not only those that are still in a wet or in a damp condition, but are also those that have been previously wetted and then dried. In either case, the document examiner must be knowledgeable of how to properly preserve and record the evidence for an optimal examination.

In this particular case, the document in question was originally an 8.5" X 11" ruled paper bearing hand printing and drawings. It was folded numerous times and then left out in a harsh Northern environment for approximately a year. Upon initial examination it was thought that unfolding and reconstruction of the evidence might not be successful due to the number of folds and its extremely dry condition. At best, it was thought that only portions might be reconstructed. The current ASTM standard, Standard Guide for the Preservation of Liquid Soaked Documents, ASTM E2711-11, advocates the use of submersion, using an appropriate liquid. Among other equipment, atomizers, trays, and pliable screening are also suggested. As is also the case with charred documents, other publications in the field have advised the application of a glycerin and water mixture to the evidence to facilitate the preservation process. In this instance, a 10% glycerin and water mixture was prepared and an atomizing process was begun. After placing the item in a glass dish, the mixture was slowly and lightly applied to both sides of the folded mass. The examiner then allowed the mixture to fully soak into the document before attempting any sheet separation. A plastic wrap was placed over the dish to prevent drying and approximately an hour later the unfolding process began. Using tweezers, each layer was carefully unfolded, taking care to visualize paper edges and avoid tearing at folds. With a multifold document, this process was challenging, but with a repeat of the atomizing process over several days, the document was successfully recreated, save for two portions in the middle section.

The permanent conservation of the final product is crucial in these types of cases and the proper assessment of the item at hand and the appropriate use of an atomized mixture and drying substrate is important to this process. To finalize the examination, glass plates provide the necessary viewing and yet firm substrate for the rest of the forensic and legal processes to follow. In order to prevent the plates from slipping and causing possible damaging movement of the document, the edges are taped. Attendees will learn how to successfully approach and perform these stages of preservation and also to apply them in similar types of cases to include charred evidence.

**Liquid Soaked Documents, Questioned Documents, Preservation**