

# **BURNT OR CHARRED DOCUMENTS- A REVIEW**

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## **INTRODUCTION:**

### **DOCUMENT:**

A document is anything which convey some messages in the form of text , signs , symbols, marks ,or in general it may be also defined as, a document is a record or the capturing of some event or thing so that the information will not be lost usually, a document is written , but a document can also be made with pictures and sound . A document is a form of information . A document can be put into an electronic form and stored in a computer as one or more files. Often a single document becomes a single file . An entire document or individual parts may be treated as individual data items.

### **BURNT OR CHARRED DOCUMENT:**

A document that has become blackened and brittle by burning or exposure to excessive heat is classified as charred document . Accidentally burnt documents or those intentionally destroyed are referred forensic laboratories for restoration and decipherment of writings on them. Burnt documents being highly fragile do not usually remain in their original shape and get broken into small fragments. Curling is also observed around edges. It is, therefore, necessary that utmost care should be taken in handling, preserving and transporting the charred documents to the forensic laboratories. Charred document can be expected in case of accidental fire, intentional fire and arson, insurance and financial and leaking of examination papers,etc.

A charred or burnt document is any document that has become darkened and brittle through exposure to fire. Burning documents to conceal a crime is fairly common; most people believe that once evidence of their crime has turned into ash, they will not be discovered. However, with special equipment, an experienced document examiner can often still read what is on a burned or charred document . The handling and decipherment of charred documents is one of the perplexing problems in the field of questioned document examination and arson investigation. A burnt document is extremely fragile and requires great care in handling and processing. In addition, its blackened, carbonized state renders ordinary restorative processes ineffective. An entirely new approach to a unique problem is required .

### **LITERATURE OF REVIEW:**

### **HANDLING OF CHARRED DOCUMENTS:**

- (1) Field Investigation.** The handling of charred remains must be carried out with the greatest of care. Some slightly calcinate fragments may be playble and fairly impervious to damage,

while others, where a more radical burning has taken place, will fall apart at the slightest touch. The composition of the original paper has much to do with the fragility of the charred fragments. To avoid unnecessary breakage, it is advisable to treat all charred documents as though they were of the most fragile type .

Most charred documents are found in safes, strong boxes, or like places of safekeeping, although single documents burned in a fireplace, stove, or other open area may require decipherment. The arson or other field investigator should never attempt removal of the fragments from the original container if it is possible to transport the container undisturbed to the laboratory. With proper care a strongbox, small safe, or stove 'can be transported without excessive damage to the charred contents. A recommended procedure is to pack cotton wool or other cushioning material between the charred documents and the side of the container, thus forming a protective layer against damage. In a case handled by David A. Black of Los Angeles' two safe-deposit boxes full of charred documents were transported by personal messenger all the way from the Philippine Republic. Very little breakage was observed, and the documents were merely packed lightly in cotton wool.

If conditions are such that the original container cannot be taken from the site, it is necessary to transfer the documents to another receptacle which serves as a temporary accommodation for the trip to the laboratory. This transferal operation should be carried out by a trained laboratory technician, or an investigator experienced in charred document care. If much material has been burned, it is usually-best to remove the charred contents as a mass, rather than separately. This is accomplished by slipping a pie tin, or similar piece of thin metal, under the mass of documents and gently withdrawing them from the container. The tin and documents are then placed in a box for transportation to the laboratory. Should tightly bound bundles of documents be found, each parcel is removed from the pile with the fingers and placed in a separate box so that the smaller fragments at the bottom are not broken by the weight of the heavier bundles.

Charred documents found singly should be handled with the greatest of care. Flat bladed tweezers are particularly useful for picking up these fragments. When only parts of whole documents are found, they may be segregated according to the area of container in which they are found .

These fragments are then placed in flat boxes labeled correspondingly.' Stationery or candy boxes with tops are the most satisfactory for this purpose.

During all of the removal and segregation operations, it is imperative that air currents be avoided and windows be kept tightly shut. It takes very little movement of air to dislodge these dehydrated pieces of carbonized material.ing to the area of the container in which they are found.

1. See "Decipherment of Charred Documents," Jr. of C. Law and Criminal., Vol. 38, No. 5, Jan.-Feb., 1948.

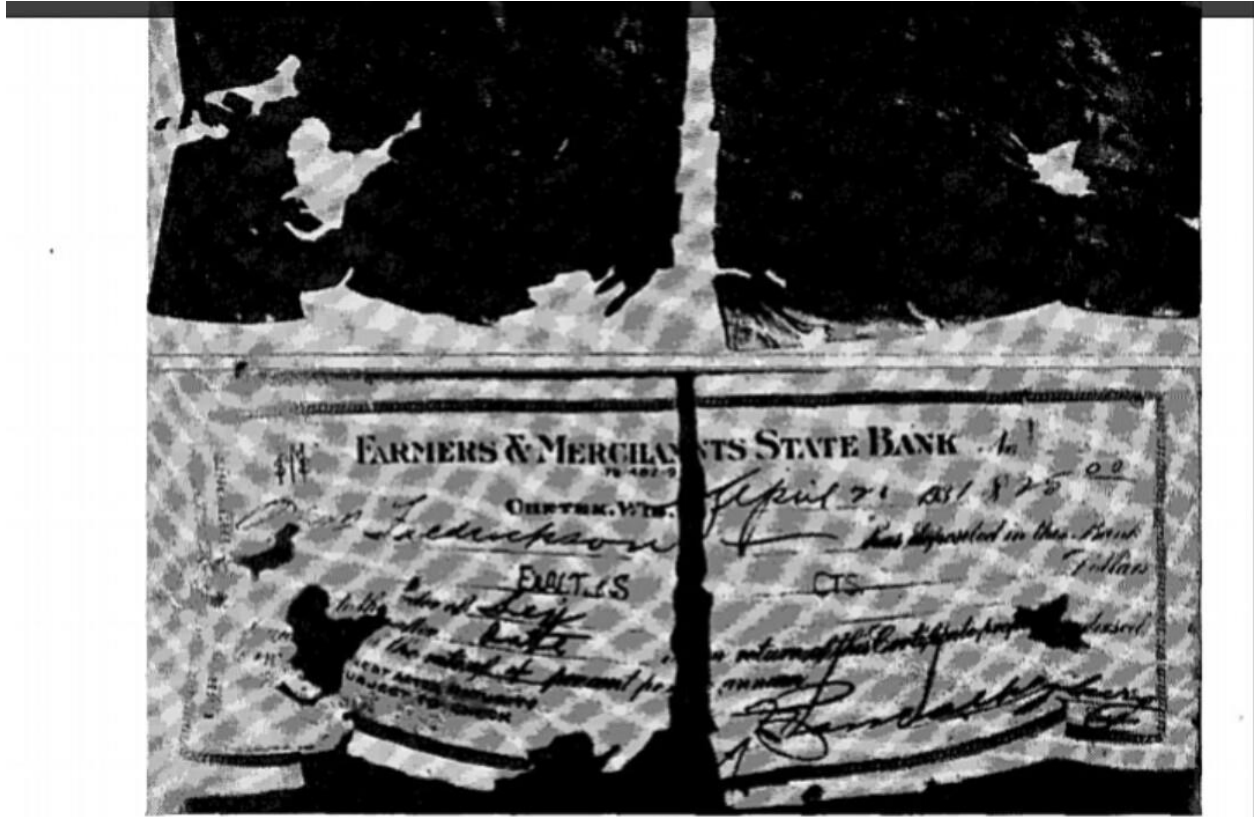


Figure 2

Decipherment by Contact Exposure Method

Top: A charred document as it appeared before treatment. Bottom: Photograph made by contact exposure method. (Reprinted with permission of John F. Tyrrell,<sup>7</sup>)

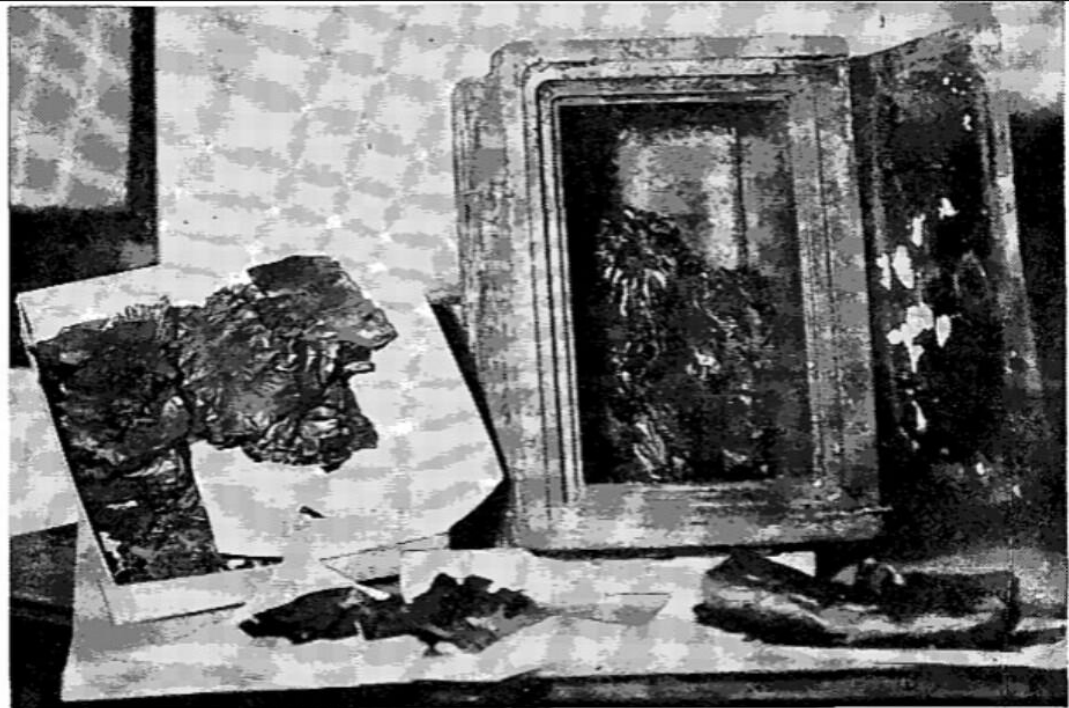
**(2) LABORATORY TREATMENT :** The most difficult part of the operation begins when the charred material reaches the laboratory. Here the separation and segregation of the documents takes place. Again it is found that individual conditions govern the best procedures to be used. Document burned in a closed vessel react differently from those burned in the open air. Depending upon the number of documents and their proximity to one another, as well as the extent of charring, they adhere or are easily separated. If closely bound together they may remain fairly flat whereas singly the fragments tend to curl and twist. Obviously, it is of paramount importance that these papers be separated with the least amount of damage to the individual documents; and this is not an easy task, especially when the documents are found in a twisted, shrunken mass of closely packed paper. In most cases of documents charred in a mass, it is possible to separate the individual papers without resorting to liquids, solvents, or other chemical means. In a case handled by John F. Tyrrell, associate of the writer, only manual methods were used for separating documents found in a strong box.

2. See "Documents and Their Scientific Examination," 1922, Page 83.

3. See "Decipherment of Charred Documents," Jr. of C. Law and Criminol., Vol. 30, No. 2, July-Aug., 1939.

**(3) DECIPHERMENT PROCEDURES:** For purposes of clarity, the procedures for deciphering charred documents have been placed in two general categories, Photographic, those procedures requiring pure photographic techniques, and Visual, those processes in which the documents are first visually inspected, and the contents tabulated or photographically reproduced. The primary usefulness of most "visual" processes is to decipher large numbers of charred documents, an effort that would be too expensive and time consuming by photography alone. However, in specific instances, photography can be and is used to record the results of "visual" decipherment efforts.

**(4)** "Preserving and Deciphering Burnt Paper," Criminal Investigation (English translation), 1906.



*Figure 1*

A Strong Box and its Charred Contents as Recovered from a Fire  
(Reprinted with permission of John F. Tyrrell, "Decipherment of Charred Documents"<sup>3</sup>.)

### PHOTOGRAPHIC METHODS:

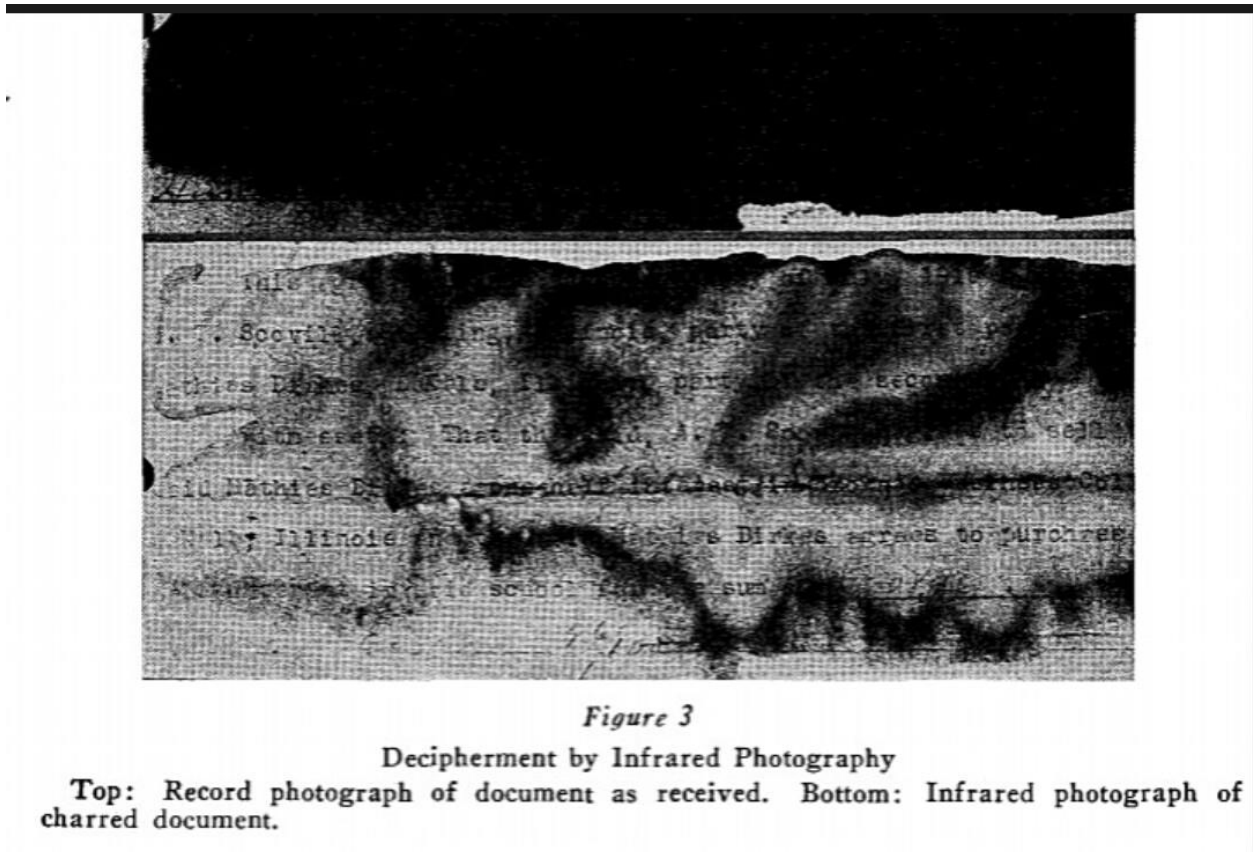
**Contact Process:** Scientists have known for many years that certain gases and vapors will fog the emulsion of a photographic plate or film without exposure to light. Davis of the Bureau of Standards

conducted experiments 6 which indicated that recently burnt charred documents emitted gases capable of recording a latent image on the photographic emulsion.

(5)See "Scientific Papers of the Bureau of Standards" No. 454, issued October 18, 1922 by U. S. Government Printing Office.

**(1)FILTER PHOTOGRAPHY:** This type of photography, when applicable, overcomes two of the disadvantages of the contact process, the time element, and the diminishing photographic activity of "stale" fragments. The process requires the use of a Written # 48 deep blue filter in conjunction with commercial film. The filter function is not completely known, but it appears to accentuate the differences in actinic power of the charred document background as compared to those portions of the paper on which printing ink has been deposited.

**(2)INFRARED PHOTOGRAPHY:** However, it is the writer's experience that a large percentage of charred documents fail to yield satisfactory results with this method. In certain specific cases it may produce quite startling results, especially where the original writing mediums are typewriting, pencil, or dense iron-gall ink. A widely known method for taking infrared photographs utilizes a Written 87, deep red filter in conjunction with Eastman infrared plates, development carried out in Eastman DK 50 developer. Lighting for infrared photography may be provided by a number of good incandescent light sources. Two #2 photofloods placed on either side of the document are as efficient as any. The infrared exposure is usually of long duration. The exact time is best determined by trial and error, but a good standard for actual size photographs is 1 2 minutes at f. 16 with two #2 photofloods placed three feet from the object board.



### **Crime Scene Investigation in Case of Charred Documents:**

It is thorough inquiry of the crime by conducting systematic study of various investigative methods. It involves recovery of physical and documentary evidence for the purpose of identifying and arrest of perpetrators for their prosecution. Crime scene investigation shall technically commence upon the arrival of first responder and conclude with the lifting of security cordon and release of crime scene by IO.

### **Basic Guidelines for Carrying out Search at Scene of Crime:**

- (i) Defining control boundaries of a SOC for protecting and securing it.
- (ii) Preserving a SOC with minimum possible contamination and disturbance of any physical clue material.
- (iii) Safety and security of all persons in and around a SOC.
- (iv) Taking custody of records, maintaining details of documents available or stored at the scene of crime.
- (v) Controlling, identifying, verifying and removing persons from a SOC after proper and self-attested recording of their details, names, addresses, contact numbers, etc.
- (vi) First remove unburnt evidential documents from scene of crime and take them in your custody.

- (vii) Always photograph the document on arrival at the scene of crime, on 'as it is and where it is' basis to prove in the court that these documents were actually recovered from the scene of crime.

**Documentation of the Crime Scene:** Location of charred documents found at the scene should be documented by way of sketching and photography.

**Photography of the Crime Scene:** After the crime scene is secured, photography of charred document is required for their location and neighbourhood. Close up photography of charred document using high intensity light source and high resolution camera is also required.

**Search for Evidence:** The search team should be divided into sub-teams which should systematically start searching the place from one end to another in each room/open space depending upon the nature of a case.

Three types of evidence may be found at a SOC, namely

- (i) Documentary evidence
- (ii) Forensic evidence
- (iii) Material evidence

### **Documentary Evidence:**

- (i) Registers carrying details such as money transaction, visitors, personal details of victims, tasks assigned to people connected with the case
- (ii) Letters/memos
- (iii) Marriage certificates
- (iv) Contact diaries/business cards
- (v) Business related registers/papers
- (vi) Account related register
- (vii) Property documents
- (viii) Employment papers
- (ix) Identification documents (passport, ration card, voter's card, aadhaar card etc.)
- (x) Bank documents
- (xi) Copies of leaked examination paper

### **Material Evidence:**

- (i) Material used for fire (fuels like kerosene/petrol/diesel, etc.)

- (ii) Matchbox/lighter/electric wires, heaters, etc.
- (iii) Computers, desktop, laptop, palm top floppies/CDs/pen drives
- (iv) Mobile phones
- (v) Video or still camera
- (vi) CCTV footage.

### **Procedure for Handling and Transportation of Charred Documents at the Scene of Crime:**

- (i) Protect the crime scene.
- (ii)** Switch off the fans and close the windows of the room in case of indoor crime scene. This will restrict flow of air and thereby burning of materials.
- (iii)** Do not disturb the container in which the document is burnt until and unless the container is transported to the laboratory.
- (iv)** Stabilize the charred mass as far as possible using polyvinyl acetate in acetone solution (2-3 per cent) by spraying it gently over the charred masses as the charred documents are highly fragile.
- (v)** When there is a heap of charred mass, try to procure partially burnt documents from the inner middle part of the heap as unburnt documents may be available due to lack of oxygen/incomplete burning.
- (vi)** Do not try to remove the pages of stacks of paper. Lift them as it is. Scattered pages should be lifted using spatula and transfer to the glass sheet. Keep cotton over it and then transfer it to the cardboard box one by one.
- (vii)** Get archival plastic sheets for preserving. (ix) Great amount of patience is required to handle burnt or charred documents.
- (viii)** Great amount of patience is required to handle burnt or charred documents.

### **Collection and Packaging of Charred Documents :**

- (i) At the scene of crime, charred documents can be found in the dust bins, garbage bins in the backyard, inside the washroom or toilets, at the corner of the room, etc. In cases of arson, charred documents can be found in drawers, cupboards, racks, on the table or any other platform, on the floor or in the cupboard.
- (ii)** Close up photography of the charred document with high resolution camera should be done on the spot.



- (iii) The destructive effects of heat are often closely associated to excessive dryness as a result, paper becomes very brittle and fragile. Not all papers can be regenerated after suffering (mutilating) from excessive heat.
- (iv) In case of wet and charred documents, transport it to a chilled storage to prevent mould formation.
- (v) To remove moisture, documents be put in dehydrator with controlled air circulation.
- (vi) Documents are dried, restored and refiled.

## CONCLUSION:

Charred documents are recovered at the crime scene. They maybe be accidentally destroyed or intentionally burnt. In most of the cases it is too late to recover the content of the burnt document as it get destroyed with time or got blown air by strong wind pressure. In some cases it remained un-noticed as their pieces are already missing due to some reason . moreover the knowledge of recovering contents from crime scene is not proper with the investigating officers. Much work is not done on the charred documents as it is difficult to recover the data from the burnt documents. So it is ignored in many of the cases. So maybe with the passage of time the existence of charred documents will came in existence in proper manner, the methods of deciphering the contents from it would be better in future with advancement in techniques and technology. No doubt in today time also equipments are present but still need alots of improvement in this field. The burnt document in the form of char is very difficult to pick or collect and handled an then examined. In maximum cases it is impossible to decipher content as its totally burnt but in partially burnt documents it is possible upto some extend to recover the data. So overall scope for charred document is wide in future still rising and getting better with passage of time.

## REFERENCE :

- (1) "Decipherment of Charred Documents," Jr. of C. Law and Criminol., Vol. 38, No. 5, Jan.-Feb., 1948.
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- (3) "Scientific Papers of the Bureau of Standards" No. 454, issued October 18, 1922 by U. S. Government Printing Office.
- (4) "A'New Method for the Decipherment of Charred Documents" Nature (London) April 4, 1941. Abstracts in Scientific American, December 1941; 340, and Paper Industry and Paper World, May 1942, 222.
- (5) Ellen, D.(2005).Scientific examination of documents: Methods and Techniques , Third Edition . Boca Raton: CRC Press.
- (6) ( Read at the meeting , November 5, 1941). By J. GRANT, M.Sc., PH.D., F.I.C.
- (7) A.K. Bapuly, Forensic Science: Its Application in crime investigation, 1<sup>st</sup> edn, Hyderabad, 2006.