SECTION 13. LABORATORY DIVISION AIDS TO INVESTIGATIONS

13-1 INTRODUCTION TO FBI LABORATORY DIVISION

EFFECTIVE: 05/25/90

13-1.1 |Deleted|

EFFECTIVE: 04/07/97

13-2 AVAILABILITY AND USE OF LABORATORY FACILITIES

EFFECTIVE: 05/25/90

13-2.1 Availability of the FBI Laboratory

As a general rule, services of the FBI Laboratory are available to:

(1) U.S. Attorneys, military tribunals, and all other Federal agencies in both civil and criminal matters. (Requests from USAs for any Laboratory services (including trial charts), examinations and testimony of FBI Laboratory experts should be made through FBI field offices.)

(2) All duly constituted state, county, and municipal law enforcement agencies in the United States and territorial possessions in connection with their official investigations, but in criminal matters only.

EFFECTIVE: 05/25/90

13-2.1.1 Stipulations

All Laboratory services, including expert witnesses, are rendered free of all cost to the requesting agency, but in offering these services, experience has dictated the following limitations in the interest of economy to avoid duplication of effort and to ensure the proper administration of justice:

(1) No examination will be conducted on any evidence which has been previously subjected to the same type of technical examination. This requirement is intended to eliminate duplication of effort and ensure the integrity of the evidence is maintained. An exception may be granted by the Laboratory Division to this policy when there exist compelling reasons that a reexamination be conducted. These reasons should be set forth in individual letters from the director of the laboratory which conducted the original examination, the prosecuting attorney, and the investigating agency which collected and submitted the evidence for laboratory analysis. (Note: A check will be searched through the National Fraudulent Check File even though it has been technically examined by or searched through a check file maintained by another agency.)

(2) No testimony will be furnished if testimony on the same technical subject and in the same case is to be given for the prosecution by another expert.

(3) No request for examination will be accepted from a nonfederal law enforcement agency in connection with criminal cases if it is indicated that only a civil case will grow out of it.

(4) No requests for examination will be accepted from other laboratories which have the capability of conducting the requested examinations. (Exceptions to this policy may be made, in extenuating circumstances, upon approval of the Assistant Director of the Laboratory.)

EFFECTIVE: 04/07/97

13-2.1.2 |Deleted|

EFFECTIVE: 09/09/93

13-2.2 Use of Other Laboratories or Other Forensic Experts

Since materials of evidentiary value located at a crime scene or otherwise obtained during FBI investigative activities offer invaluable potential for investigative information and probative results, these materials should be submitted, except in circumstances detailed in subsection 13-2.2.2 below, to the FBI Laboratory in lieu of other laboratories or other forensic experts because

(1) The facilities of and the expertise within the FBI Laboratory provide the best in available scientific analyses and technical services

(2) The FBI is appropriated money yearly by Congress to operate its own Laboratory to provide laboratory services in matters of interest to the Bureau.

EFFECTIVE: 04/07/97

13-2.2.1 Cases Involving Joint Jurisdiction

Diplomacy and good judgment must be exercised in the instances which arise in cases of joint jurisdiction where state, local, and/or other Federal laboratories either handle or maintain custody of materials of evidentiary value obtained by their personnel either prior to or after FBI involvement so as to:

(1) Protect the integrity and "chain of custody" of these materials of evidentiary value in the event the final mutual agreement is that the matter under investigation is to be prosecuted in the Federal judicial system with the FBI having the responsibility of primary jurisdiction and

(2) Demonstrate the FBI has the proper professional respect for the technical and scientific competence of these other laboratories and the investigative efforts of their law enforcement personnel.

(3) In matters where physical evidence has been

previously examined by a state or local crime laboratory and the FBI Laboratory is directed by the Department of Justice to conduct a reexamination, the head of the laboratory which conducted the original analysis will be promptly notified of this action by the Laboratory Division.

EFFECTIVE: 05/25/90

13-2.2.2 Cases Involving Sole FBI Jurisdiction (See MIOG, Part II, 13-2.2.)

When circumstances dictate, FBIHQ will consider requests for the use of non-Bureau forensic experts. The following conditions must be observed:

(1) Only the FBI Laboratory should conduct forensic examinations of evidence in FBI investigations. Only under extenuating circumstances should other laboratories or forensic experts in private practice be consulted or their services requested. This should only occur after prior contact, and with the approval of, the FBI Laboratory by electronic communication (EC), teletype, or telephone and then confirmed by EC or teletype. Such communications should include:

(a) A synopsis of the circumstances necessitating the use of an outside forensic expert.

(b) The name of the local expert(s) and their local laboratory affiliation, if any,

(c) The name and office telephone number of the case Agent, and

(d) The personal endorsement of the SAC that such action is needed.

(2) This procedure is necessary to ensure:

(a) That the needed services or examinations cannot be performed in a timely fashion by submitting the evidence to the FBI Laboratory due to extreme urgency of the situation, or that FBI Laboratory personnel could not travel to the requesting location and perform the services or examinations;

(b) That when circumstances so warrant, and FBI Laboratory approval is given, only competent and reputable forensic experts be utilized who are recognized as reliable within the forensic science community.

(3) If FBI Laboratory approval is obtained for the use of non-FBI Laboratory experts, those experts must assure that all necessary examinations are being performed since federal violations frequently require different elements of proof than do state or local violations of the same or similar nature and,

(a) That nothing will be done which will destroy the usefulness of the evidentiary material;

(b) That the local expert be advised of the willingness of the FBI Laboratory to be consulted on the scientific and technical aspects of the examination(s) and to provide additional examinations which may not be possible locally;

(c) That a copy of the local expert's examinations report be promptly furnished to the FBI Laboratory.

(4) Under no circumstances should "curbstone" opinions be sought of local scientific or technical personnel to assess the potential value of evidentiary materials prior to submitting these items to the FBI Laboratory for examination. Preliminary local analyses could

(a) Cause alteration and/or contamination of these materials,

(b) Create a conflict of opinion due to variations in testing procedures,

(c) Unduly complicate the "chain of custody,"

(d) Severely hamper the effectiveness of the Bureau's efforts, and

(e) Create unnecessary legal issues which could arise subsequently in the prosecution process.

EFFECTIVE: 04/07/97

13-3 REQUESTING LABORATORY ASSISTANCE

The information under this caption as well as that contained elsewhere in this section under the particular type of examination or assistance desired should be consulted to facilitate the submission of requests to the Laboratory Division.

EFFECTIVE: 05/25/90

13-3.1 Requests for Examination(s) of Evidence (See MIOG, Part I, 9-7; II, 13-17.3.)

A request for an examination must be in written form and forwarded with the evidence. A telephonic request must be followed with a written official communication. The incoming communication must be sent with each case and should include a listing of the suspect/subject, victim, violation, location and date of offense, case file number, a brief description of the case, a detailed description of the evidence enclosed, the request of the Laboratory and a contact name and number. A written request for Laboratory Division services must bear a single title and a single Universal Case File Number. If additional cases need to be intercompared with the listed title, that request should be in the body of the incoming communication, not identified by additional titles. All requests should be addressed to the Director, Federal Bureau of Investigation, with an attention line in accordance with 13-3.1.1 below and contain the following information:

(1) Reference to any previous correspondence submitted to the Laboratory in the case.

(2) The nature of and the basic facts concerning the violation insofar as they pertain to the laboratory examination.

(3) The name(s) and sufficient descriptive data of any subject, suspect, or victim.

(4) Each case submitted to the Laboratory must be individually packaged and placed in an appropriate evidence container. The evidence container must be placed under proper seal, labeled with

appropriate warning labels, contain a single titled communication, and shipped via trackable carrier. Lab exam requests should contain a list of the evidence being submitted either "herewith" or "under separate cover." (Note: Due to evidential "chain of custody" requirements, all evidence sent through the U.S. Postal Service (USPS) system must be registered mail and not by parcel post or regular mail. If United Parcel Service, Federal Express, or air freight is used, utilize their "acknowledgment of delivery," "protective signature," "security signature," or any other such service which provides the same protection as USPS registered mail.) Only evidence for the first captioned case should be submitted with each communication. (See MIOG, Part II, 13-3.1.2 (9), 13-6.7 and 13-6.7.1.)

(a) "Herewith": This method is limited to certain small items of evidence which are not endangered by transmission in an envelope. Utilize the specially designed evidence envelope (Form FD-632). Execute written portion of envelope BEFORE placing evidence inside to preclude damaging or altering evidence and to prevent addition of indented writing. Insert the evidence and securely seal the envelope. Fold up the flap marked "PLEASE STAPLE CORRESPONDENCE TO THIS FLAP" and securely attach the written communication which should state "Submitted herewith are the following items of evidence."

(b) "Under separate cover": This method is generally used for shipment of numerous and/or bulky items of evidence. The written communication should state "Submitted under separate cover by (list the method of shipment be it USPS, United Parcel Service, Federal Express, or air freight) are the following items of evidence." For further information concerning the preparation of packages sent under separate cover see 13-3.1.2 below as well as 13-6.6 (Packaging Chart) illustrated in the "Electronic Reference Library Searching Guide" Appendix.

(c) "Packaging": An evidence container is defined as any container that houses items of evidence in a manner which maintains the integrity of those items. To further this definition, a primary container is the container that is in direct contact with the evidence. For example, an envelope housing a fraudulent document or a vial containing blood would be considered a primary container. A primary container must be placed in a secondary container which must be leakproof and puncture-resistant, when the evidence so warrants additional protections. A secondary container is needed only when wet evidence, such as liquid blood, or a sharp item, such as a needle or a knife, is submitted to the Laboratory for examination. Each item of evidence must be packaged separately to avoid contamination. Each case must be submitted individually. The Laboratory Division will

strictly endorse the related portions of MIOG, Part II, 13-3.1.2(3) and 13-3.1.2(4).

(d) "Sealing": All containers must be properly sealed with|tamper-evident|tape. A container is properly sealed only if its contents cannot readily escape and if entering the container results in obvious damage/alteration to the container or its seal. A proper seal consists of taping the evidence container over or along the opening with|tamper-evident|tape and placing the initials of the person creating the seal over the tape. A proper seal is not created by simply stapling the evidence container closed, nor is it properly sealed when a container opening is exposed. |Tamper-evident| tape is available through FBI central supply or the Evidence Control Technician. (See 13-3.1.2.)

(e) "Warning Labels": A warning label alerts the recipient of the potential hazards of the evidence enclosed, therefore appropriate warning labels must be placed on an evidence container in a visible area. Biological hazards (biohazards) fall under the Bloodborne Pathogen guidelines. (See 13-3.1.2.)

Biohazardous evidence (evidence containing any biological material) must be labeled with a biohazard sticker. If the item is or contains dried body fluids, such as blood, semen, or saliva, a primary container is the only container needed and the biohazard sticker is placed on the outside of the primary container. If the item is or contains wet body fluids, the primary container must be placed in a secondary container and the secondary container must be labeled with a biohazard sticker. (See 13-12.4.1.)

Because of the importance of compliance with using proper warning labels, FBIHQ will remind the field of the policy when a noncompliant submission is received. If the case Agent or Evidence Control Technician neglects to affix appropriate warning labels, the|examiner or|examiner's Unit Chief will call the supervisor of the case Agent or Evidence Control Technician to alert that supervisor of the noncompliant submission. Pursuant to the contact, a letter describing the noncompliant submission will be sent to the Assistant Director in Charge (ADIC) or Special Agent in Charge (SAC).

(5) A request stating what types of examinations are desired. Include, if applicable, comparisons with other cases, listing captions of these cases and Bureau file numbers, if available.

(6) Information as to where the original evidence is to be returned as well as where the original Laboratory report is to be

sent.

(7) A statement, if applicable, as to whether

(a) The evidence has been examined previously by another expert in the same technical field (provide a copy of any report(s) generated by other experts, if available)

(b) Any local controversy is involved in the case, or

(c) Any non-Bureau law enforcement agencies have an interest in the case.

(8) Notification of the need and reason(s) for an expeditious examination bearing in mind this treatment should not be routinely requested.

(9) If damage occurs in the mail system or evidence is improperly packaged and the integrity of the evidence has been jeopardized as a result, the case Agent will be notified. If the integrity of the evidence has been compromised, a decision will be made by appropriate laboratory personnel as to what, if any, forensic examinations can or will be conducted. This policy is imperative to preserve the integrity of the evidence and to protect the safety and well being of the persons handling these submitted materials.

EFFECTIVE: 11/21/97

13-3.1.1 Attention Lines for Communications and Packages (See MIOG, Part II, 13-3.1, 13-3.1.2(8) and (10).)

The following guidelines should be adhered to as closely as possible to avoid any unnecessary delay in the routing of mail at FBI Headquarters.

(1) All requests for a laboratory examination should be marked "Attention: FBI Laboratory, Evidence Control Center."

(2) Deleted

(3) Deleted

(4) Requests for photographic processing ONLY should be submitted on the FD-523. (Note: Whenever a package containing exposed film is sent to the Laboratory the word "FILM" should be clearly marked on the outside of the package.)

(5) Requests for photographic laboratory examination of any kind should be marked "Attention: FBI Laboratory, Special Photographic Unit."

(6) Requests for BOTH photographic processing and a fingerprint examination should be submitted on the FD-523 and, in the area for request, marked "Attention: Laboratory Division, Evidence Control Center."

(7) Requests for the enhancement, processing and examination of video imagery where no comparison with known photographs or items of clothing are required or requests for the production of video tape demonstrative evidence should be marked "Attention: FBI Laboratory, Special Photographic Unit."

EFFECTIVE: 07/25/97

13-3.1.2 Shipment of Evidence "Under Separate Cover" (See MIOG, Part II, 13-3.1(4)(b).)

The following steps should be followed to properly prepare a package for shipment of numerous and/or bulky items of evidence apart from the original written request for the examination(s). For additional guidance and instructions see 13-3.1(4) (b), (c), (d), and (e) above and 13-6.6 (Packaging Chart) below. (Note: Comply with the following steps (1) through (9) if a cardboard box is used and step (10) if a wooden box is used):

(1) Take every precaution to preserve the items of evidence as outlined in the applicable sections of the Evidence Chart (13-6.7) as well as afford appropriate physical protection of the latent fingerprints thereon to include identification with the word "LATENT." (See (10) below.)

(2) Choose a cardboard box suitable in size.

(3) Place nonporous items of evidence in a separate container to avoid contamination and for preservation of latent

prints. (See Part II, 13-3.1(4)(c) and 13-3.1.2 (10) below.)

(4) Do not place evidence from more than one case in the same box. (See Part II, 13-3.1(4)(c) and 13-3.1.2 (10) below.)

(5) Pack the evidence securely within the box to avoid damage in transit or puncture of box and protrusions/loss of evidence. (See (10) below.)

(6) Seal the box with gummed tape and clearly mark the outer portions of the box with the word "EVIDENCE." (Note: If any of the evidence in the box is to be subjected to a latent fingerprint examination, also clearly mark the outer portions of the box with the word "LATENT.")

(7) Place a copy of the original written request for the examination(s) in an envelope marked "INVOICE" and securely affix this envelope to the outside of the sealed box.

(8) Enclose the sealed box in wrapping paper and seal the wrapping paper with gummed tape. Prepare the address label, addressing the package to the Director, Federal Bureau of Investigation, 935 Pennsylvania Avenue, NW, Washington, D.C. 20535-0001, with the proper attention line as outlined above in 13-3.1.1. Cover the label with yellow transparent tape to identify the shipment as evidence and place it securely on the package.

(9) Ship the package by U.S. Postal Service, United Parcel Service, Federal Express, or air freight in accordance with the note in 13-3.1(4) above and the Evidence Chart (13-6.7).

(10) Choose a durable wooden box suitable in size and

(a) Comply with the above steps (1), (3), (4), and (5).

(b) Securely fasten the lid on the box and address it to the Director, Federal Bureau of Investigation, 935 Pennsylvania Avenue, NW, Washington, D.C. 20535-0001, with the proper attention line as outlined above in 13-3.1.1.

(c) Place a copy of the original written request for the examination(s) in an envelope marked "INVOICE." Place the invoice envelope in a clear plastic cover, and tack it to the box.

(d) Comply with step (9) above.

EFFECTIVE: 07/25/97

13-3.2 Requests for Other Laboratory Assistance

Requests for artist conceptions should be submitted on Form FD-383. Requests for photographic processing, printing, enlargements, etc., where no examination is involved must be submitted on an FD-523. |Requests for other Special Projects Section services should be submitted on an FD-790.| Requests for translations, trial exhibits, and on-the-scene Laboratory assistance in photographic surveillances, evidence examinations, or crime scene searches (e.g., bombings) and questions concerning photographic, polygraphic, forensic training, or other Laboratory matters should be submitted in a written communication, in triplicate, directed to the FBI Laboratory. However, if time is of the essence or the exigencies of the case are such, telephonically contact the Laboratory Division, referring to the "FBI Laboratory Directory of Support Services," for the unit which provides the desired assistance. If after consulting the Directory, problems or questions still exist, call the office of the Assistant Director, extension 4410.

EFFECTIVE: 09/03/93

13-4 RESULTS OF EXAMINATION(S) OF EVIDENCE

The results of evidential examinations conducted in the Laboratory are recorded in a written report.

EFFECTIVE: 11/23/87

13-4.1 Dissemination of Laboratory Report (See MAOP, Part II, 10-13.13.)

Normally three copies of each laboratory report are furnished to the

(1) Office(s) contributing evidence,

(2) Office of origin,

(3) Offices designated by the contributor(s), and

(4) Those offices determined by the Laboratory to have an interest in the case depending on the results of the examination(s).

(a) The original and two copies of the report will usually be sent to the office of origin in those instances where there are several offices contributing evidence, as well as those instances in which a contributing office makes such a request.

(b) If evidence is submitted to the Laboratory by a non-Bureau agency in a case in which the Bureau has or may have a joint jurisdiction, a report will be furnished the contributor with three copies of the report designated for interested Bureau offices, to include the office of origin.

EFFECTIVE: 09/24/93

13-4.2 Inclusion of Laboratory Report in Other Reports

A copy of a laboratory report may be included in other reports prepared in the field. Some laboratory reports are sent to the field under the cover of a Laboratory Transmittal Form (7-72) commonly referred to as the Administrative Page(s). These Administrative Pages are not part of the laboratory report and therefore should not be included in any reports prepared in the field.

EFFECTIVE: 01/26/83

13-4.3 Rule 16. (Discovery and Inspection)

A portion of Rule 16 of the Federal Rules of Criminal Procedure states "Reports of Examinations and Tests. Upon request of a defendant the government shall permit the defendant to inspect and copy or photograph any results or reports of physical or mental examinations, and of scientific tests or experiments, or copies thereof, which are within the possession, custody, or control of the government, the existence of which is known, or by the exercise of due diligence may become known, to the attorney for the government, and which are material to the preparation of the defense or are intended for use by the government as evidence in chief at the trial." This request must be made before the court and "Upon a sufficient showing the court may at any time order that the discovery or inspection be denied, restricted, or deferred, or make such other order as is appropriate."

EFFECTIVE: 01/26/83

13-4.4 Laboratory Reports and the Disposition of Submitted Evidence

(1) Each laboratory report will normally contain a statement concerning the original evidence being returned herewith, under separate cover, or with the results of another examination such as a latent fingerprint examination.

(2) Whenever original evidence is returned by the Laboratory to the contributing office(s) or to the office of origin, upon the request of the contributor(s), it should be checked against those items listed in the written request as well as in the laboratory report to ensure all the evidence has been returned.

(a) If any discrepancies exist, extreme care should be exercised in examining all of the packing material utilized in the shipment of the evidence in order that the missing items will not be inadvertently disposed of with this material. The FBI Laboratory should be advised immediately of any discrepancies.

(b) |Deleted|

EFFECTIVE: 04/07/97

13-5 TESTIMONY OF LABORATORY EXAMINERS

EFFECTIVE: 01/26/83

13-5.1 Availability of Service

Laboratory examiners are available for expert testimony concerning their examinations provided no other expert is used by the prosecution in the same scientific field. (Note: This restriction is generally used in the interest of economy and to avoid duplication of effort.)

EFFECTIVE: 01/26/83

13-5.1.1 Testimony at Trials

The absence of examiners from FBIHQ should be kept to a minimum; therefore,

(1) Every effort should be made to utilize the services of these witnesses as quickly as possible, consistent with good trial procedures.

(2) Whenever practical, arrange for their immediate release following court appearance.

(3) In most cases the presence of an expert witness is NOT required by the court during the jury selection and, consequently, he/she need not be present when the case is called.

(4) Whenever it is possible to anticipate when the expert testimony will be required, arrangements should then be made to have the witness present at that time, rather than earlier in the trial.

(5) Laboratory should be notified of the trial dates or other judicial deadlines as soon as they are known or set.

EFFECTIVE: 07/25/97

13-5.1.2 Grand Juries and Preliminary Hearings

|(1)| Laboratory experts are available to testify at such hearings but requests for their appearance should not be made unless absolutely necessary because in most cases the laboratory report, an affidavit, or the testimony of the case Agent will suffice.

|(2)| If all attempts to obviate the appearance of a Laboratory expert have been exhausted, the FBI Laboratory should be advised in detail of the unusual circumstances which make the presence of an expert absolutely necessary.

EFFECTIVE: 01/26/83

13-6 HANDLING OF PHYSICAL EVIDENCE

EFFECTIVE: 01/26/83

13-6.1 Definitions of Evidence

(1) That which is legally submitted to a competent tribunal as a means of ascertaining the truth of any alleged matter of fact under investigation before it.

(2) Anything which a suspect leaves at a crime scene or takes from the scene or which may be otherwise connected with the crime.

EFFECTIVE: 01/26/83

13-6.1.1 Terminology

"Physical," "real," "tangible," "laboratory," and "latent," are all adjectives to describe the types of evidence which the FBI Laboratory Division examines.

EFFECTIVE: 09/24/93

13-6.2 Purpose of Physical Evidence

(1) Aids in the solution of the case because it can

(a) Develop M.O.'s or show similar M.O.'s.

(b) Develop or identify suspects.

(c) Prove or dispose an alibi.

(d) Connect or eliminate suspects.

(e) Identify loot or contraband.

(f) Provide leads.

(2) Proves an element of the offense, for example.

(a) Safe insulation, glass or building materials on suspect's clothing may prove entry.

(b) Stomach contents, bullets, residue at scene of fire, semen, blood, toolmarks may all prove elements of certain offenses.

(c) Safe insulation on tools may be sufficient to prove violation of possession of burglary tools statutes.

(3) Proves theory of a case, for example,

(a) Footprints may show how many were at scene.

(b) Auto paint on clothing may show that a person was hit by car instead of otherwise injured.

EFFECTIVE: 01/26/83

13-6.3 Nature of Physical Evidence

For the most part, physical evidence falls into two classifications.

EFFECTIVE: 01/26/83

13-6.3.1 Evidence with Individual Identifying Characteristics

This evidence can be positively identified as having come from a specific source or person if sufficent identifying characteristics, or sufficient microscopic or accidental markings are present. (Examples are: fingerprints, handwriting, bullets, toolmarks, shoe prints, pieces of glass and plastic where the broken edges can be matched, and wood where broken/cut surfaces can be matched and fabric and tape (torn ends).)

EFFECTIVE: 04/01/96

13-6.3.2 Evidence With Class Characteristics Only

(1) This evidence, no matter how thoroughly examined, can only be placed into a class. A definite identification as to its source can never be made since there is the possibility of more than one source for the evidence found. (Examples are: soil, blood, hairs, fibers, paint from a safe or car, glass fragments too small to match broken edges, and toolmarks, shoe prints, or bullets, in those instances where the microscopic or accidental markings are insufficient for positive identification.)

(2) It is desirable to have evidence that can be positively identified, but the value of evidence with class characteristics only should not be minimized. In cases involving evidence with class characteristics only, the following are desirable:

(a) A preponderance of such evidence.

(b) A preponderance of class characteristics within a single item of evidence such as paint with many layers all matching or soil with foreign matter such as paint chips, odd seeds, and safe insulation.

(c) Elimination specimens such as soil from where a suspect claims he/she was or where he/she claims a car was; soil from the surrounding areas to show that a variation does exist; and paint or other materials from a source mentioned in an alibi.

EFFECTIVE: 09/24/93

13-6.4 Crime Scene Search

A crime scene search is a planned, coordinated, legal search by competent law enforcement officials to locate physical evidence or witnesses to the crime under investigation. In order to be effective a crime scene search should include the steps outlined in paragraphs 13-6.4.1 through 13-6.4.8 below. (Note: For additional information concerning a bombing crime scene search see paragraph 13-6.5 below.)

EFFECTIVE: 02/12/92

| 13-6.4.1 Protect|and Secure|the Crime Scene

Only persons who have a legitimate investigative interest should be allowed into the crime scene. This number should be kept to a minimum. Too many people in a crime scene can lead to evidence being moved or destroyed before its value as evidence is recognized. ||Once the scene is established, it should be protected diligently.|

EFFECTIVE: 02/12/92

13-6.4.2 Conduct a Preliminary Survey of the Crime Scene for the Purposes of Establishing Firm Organizational and Planning Guidelines

This is the planning stage of the search. The plans should include:

(1) Form objectives of the search - what is to be found.

(2) Take special note of evidence that may be easily destroyed such as shoe prints in dust, footprints, etc.

(3) Organize the search.

(a) Make assignments for photographs, fingerprints, plaster casts, and evidence handling.

(b) Decide on search pattern, i.e., lane, grid, spiral or zone searches.

(c) Issue instructions to assisting personnel.

(4) Write a narrative description of the general conditions of the crime scene. These are the investigator's original notes which will be used to refresh his/her memory at the trial. They should be an accurate description of the crime scene and should include:

(a) Date, time, and location of the search.

(b) Weather and lighting conditions.

(c) Identity of others participating in the search.

(d) Assignments given other personnel.

(e) Condition and position of evidence found.

EFFECTIVE: 02/12/92

13-6.4.3 Photograph the Crime Scene

(1) Crime scenes will not remain undisturbed for very long, and therefore should be photographed as soon as possible, preferably before anyone is allowed into the scene.

(2) |When possible, a medium-format (120-roll film) camera such as the Mamiya 645 should be used. If not available, then the 35mm camera should be used. Crime-scene photographs will be taken in daylight or with electronic flash; therefore, the best film choice is either Kodacolor Gold 100 or Vericolor Professional III Type S (VPS). If using VPS, set camera and flash ISO settings at 80 instead of 160 which is indicated on the film instructions. It is noted that numerous stages of a crime scene investigation will involve photography. A constant awareness must be maintained in order to ensure that the original crime scene is photographically recorded. As discoveries are made, these also should be photographed.|

(a) Exterior crime scene:

1. Establish the location of the scene by taking a series of overall photographs to include a landmark. (360 degrees coverage if possible)

2. Establish the location of the building through a series of overall photographs. (Aerial photographs obtained at a later date may be useful.) Oblique and verticals.

3. |Any item of importance should have two additional photographs made of it. A MEDIUM-distance photograph that depicts the item and shows its relative position to other items in the immediate area and a CLOSE-UP photograph with a scale if possible.|

4. Take a series of close-up photographs of individual items of evidence to include filling the film frame, showing proper perspective and avoiding oblique angles if possible. (Black and white slow-speed film should be used as needed to record shoe prints in dust, documents, fingerprints, etc.)

5. |All entrances/exits into the crime scene area should be photographed.|

(b) Interior crime scene:

1. Utilizing a series of overall photographs, photograph rooms and other interior areas from all sides|in an

overlapping series. It may be useful to make some photographs with a wide-angle lens, but, as mentioned before, these should be noted on the "photo log," Form FD-674.

2. Any item of importance should have two additional photographs made of it. A MEDIUM-distance photograph that depicts the item and shows its relative position to other items in the immediate area and a CLOSE-UP photograph with a scale if possible.

3. Deleted

4. Deleted

(c) Evidence photographs are needed to:

1. Record the condition of individual items of evidence before recovery. (Photographs must show the evidence in detail and should include a scale, photographer's initials, and the date.)

2. Conduct laboratory examinations of evidence such as shoe prints, tire impressions, and that obtained from bank robberies. (Photography should be performed before any attempts to lift or cast. Photographs should show identifying data as indicated above.)

3. Support testimony given in court. (Photographs should be of professional quality and very detailed.)

(3) The sequence of photographs varies with each scene. Logic should dictate what order to proceed with photography based on the fragility of a given area and your ability to maintain control of the scene. If you feel that exterior areas are in danger of being contaminated, then start with those. As long as all the needed photographs are made, the order in which they are made is not critical.

(4) Crime-scene photographs should be made with the "normal" lens for the camera in use (80mm lens with the 120-roll film camera, 50mm lens with the 35mm camera) whenever possible. The "normal" lens maintains the same perspective that your eye gives you looking at the scene. A series of overlapping photographs can be made so that all areas of given space are recorded. If using a lens other than the "normal" lens, such as a "wide-angle" lens, to be able to photograph a larger area in a single photograph, it should be noted in the photo log (FD-674). (See paragraph (5).)

(5) A record of photographs taken should be kept on a "photo log," Form FD-674. It is not necessary to record the shutter speed and f/stop used. It will be very useful to record the item description and, in some cases, the location of an item and/or the photographer may be significant. A quick drawing showing this should be done in the provided space on the form. (This drawing in no way is a substitute for the crime scene sketch.) This information can then be used later for identifying photographs and as an aid in testimony.

EFFECTIVE: 02/12/92

13-6.4.4 Sketch the Crime Scene

A crime scene sketch is a handmade pictorial representation of conditions at a crime scene. (Floor plans are sometimes available from commercial concerns to aid in sketching.) It is useful in clarifying investigative data and to make the situation easier to understand by eliminating unnecessary detail. A sketch does not replace photographs at the crime scene and should be used to show:

(1) Dimensions of rooms, furniture, doors, windows, etc.

(2) Distances from objects to entrances and exits

(3) Distances between objects (including persons/bodies)

(4) Measurements showing the exact location of items of evidence. Each object should be located by two measurements from nonmovable items, such as doors, walls, etc.

(5) Point-of-view locations of photographs

EFFECTIVE: 02/12/92

13-6.4.5 Process for Fingerprints

See Part II, Section 15, of this manual for instructions on fingerprinting a crime scene.

EFFECTIVE: 02/12/92

13-6.4.6 Make Shoe Print/Tire Tread Casts and/or Lifts

See paragraphs 13-19.1 through 13-19.1.3 elsewhere in this section for instructions on the making of shoe print/tire tread cases and/or lifts.

EFFECTIVE: 02/12/92

13-6.4.7 Collect, Identify and Preserve the Evidence

For additional information on the collection, identification, and preservation of items of evidence, see paragraph 13-6.7 (Evidence Chart) and/or the appropriate paragraphs elsewhere in this section concerning the type of examination desired.

(1) Collection.

(a) All evidence must be collected legally in order to be admissible in court at a later date. For further instructions on the legality of crime scene searches, refer to the Legal Handbook for Special Agents.

(b) Evidence found during a search should be displayed immediately to another Special Agent so that both Agents can testify to its source.

(c) All evidence should be fully described in the searcher's notes and photographed in place prior to being picked up.

(d) If appropriate, Form FD-597 (Receipt for Property Received/Returned/Released/Seized) should be properly executed and the copy furnished to the contributor and/or the person(s) to whom the property is being surrendered. The original of Form FD-597 is to be placed in the 1-A exhibit envelope of the case file.

(2) Identification.

All articles of an evidentiary nature should be carefully marked for identification, preferably on the article itself,

in a manner not to injure the evidence itself and not to be obliterated. These markings, to include initials, date and case number, enable the person finding the evidence to testify, at a later date, to the finding of it.

(3) Preservation.

(a) Each item of evidence should be placed in a suitable container, such as pillboxes, plastic vials or strong cardboard boxes. The container should be suitably identified and sealed.

(b) Prepare appropriate 1-A envelopes (FD-340a and/or FD-340b) and/or Forms FD-192 and store the evidence in designated areas.

(c) For submission of evidence to the laboratory for examination see 13-3 (Requesting Laboratory Assistance), 13-6.6 (Packaging Chart), and 13-6.7 (Evidence Chart).

(d) The legal "chain of custody" must be maintained at all times.

EFFECTIVE: 02/12/92

13-6.5 Bombing Crime Scene Search

Bombing crime scenes, in spite of their massive destruction, must be conducted on the theory that everything at the scene prior to the explosion is still in existence unless it has been vaporized by the explosion. Locating and identifying items is the problem. The often-used statement that so much is destroyed by the explosion that the cause must remain unknown is rarely true. Due to various factors, the exact amount of explosives used cannot normally be determined based on an evaluation of the damage at the scene. (Note: The information contained in 13-6.4 through 13-6.4.7 concerning a crime scene search also applies to a bombing crime scene search.)

EFFECTIVE: 12/05/85

| 13-6.5.1 Purpose of|Bombing Crime|Scene Search

| |(1)| The purpose of a|bombing crime|scene search is to determine what happened, how it happened, and gather evidence to identify bomb components, reconstruct the explosive device and compare it with items of evidence identifiable to a|suspect or to previous bombings.|

| |(2) The office of origin should contact the Laboratory as soon as feasible to advise of the bombing and pertinent details. The Laboratory will search its archives in order to advise the field office of any similar bombing incidents from the past.|

EFFECTIVE: 04/07/97

| 13-6.5.2 Special Considerations for a|Bombing Crime|Scene Search

The following steps are to assist in the preparation, supervision, and evaluation activity connected with the scene of a bombing. The topics covered are not meant to be all inclusive and no attempt has been made to comment on the many aspects of the bombing investigation.

(1) Plan of action: Formulate a plan adapted to the particulars of the|bombing|crime scene. This plan will include consideration of the creation of an on-scene command post; establishment of lines of supervision; assignment of various tasks such as photographing, fingerprint processing, crowd control, collection of evidence, etc.; protection of the crime scene; obtainment of needed equipment; periodic evaluation of progress; providing of pertinent information to the public; safety; etc.

(2) Command post: Consider establishing an on-scene command|post, separate from the investigative command post,| particularly at a large bombing which may require days or weeks to complete the crime scene search. The command post should coordinate efforts amongst Bureau personnel and between representatives of other agencies and utilities as well as handle inquiries from sighseers, persons associated with the scene, relatives of the victims, and the press.

One person should be in overall charge of the bombing investigation, another over the actual crime scene search, and another over the collection of the evidence. These three individuals must maintain close coordination and expeditiously exchange information on a continual basis. The evidence coordinator will report directly to the crime scene coordinator who in turn will report directly to the individual responsible for the overall bombing investigation.

(3) Safety: Evaluate safety conditions at the outset of the crime scene search and on a continual basis throughout the search consider the possibility of a second bomb, a "jammed" bomb, or live explosives being in the debris and the safety of crowds, nearby residents, and personnel at the crime scene not only from additional explosions but also from such dangers created by utilities, weakened walls, etc.

(a) Ensure all crime scene personnel are current with Tetanus and Hepatitis B vaccine.

(b) Dust masks should be worn at all times while present at the crime scene, especially when death occurs and suspect carcinogens are present.

(c) Annual physical for potential crime scene personnel and individuals which have worked on major crime scenes is recommended.

(d) All crime scene clothing should be detoxified prior to leaving the crime scene, even if the crime scene personnel are returning the following day. Caution should be exercised when storing soiled crime scene clothing in a hotel room or at the searcher's residence. Many contaminants may be adhering to this clothing and could cause illness to an individual not associated with the crime scene.

(e) Prior to allowing the search team access to the crime scene, especially in the event of a large bombing, the crime scene should be examined for the presence of a radioactive residue, either associated with the bomb or the bombing scene.

NOTE: Bureau bomb technicians, Laboratory explosive specialists, public safety bomb squad or military EOD personnel should be contacted if a bomb is located.

(4) Protection of crime scene: Take adequate safeguards to protect the crime scene from fire, law enforcement, utility, and

rescue personnel as well as others such as sightseers, victims, and individuals with a personal interest in the property. Also, since most residues remaining after an initiation of an explosive are water soluble, the crime scene, as much as possible, should be protected against exposure to excessive moisture be it from rain, snow, broken water pipes, or any other source.

(5) Photographs: Take appropriate photographs to give a photographic representation of the crime scene (see 13-6.4.3 as a guide). These photographs should be made immediately before, periodically during, and at the completion of the crime scene activity. Properly identify each photograph, coordinate the photographs with diagrams and/or blueprints or maps, and consider the advisability of aerial photographs.

(6) Bomb scene specialists: Have some specialists trained in handling and processing bomb scenes or make arrangements for obtaining such individuals from the Laboratory ||Materials and Devices Unit.| Although the basic principles of conducting a crime scene search apply in a bomb scene search, individuals with specialized knowledge of explosives, improvised explosive devices, damage produced by explosive charges, and other facets associated with bomb scene searches, such as the search and collection of physical bombing evidence, are extremely valuable to the processing of a bomb scene effectively and efficiently. These specialists need not be qualified bomb disposal specialists. They should be the first persons, if possible, to be selected for the evidence and crime scene search coordinator positions.

(7) Equipment: Promptly make arrangements to obtain the necessary equipment to move the debris and material at the scene. Although the equipment needed at the scene varies, the following have been used:

(a) Hand tools: Shovels, rakes, brooms, boltcutters, wire cutters, sledgehammer, hammer, screwdrivers, wrenches, chisels, hacksaw, magnet, flashlights, knife, 50-foot measuring tape, and traffic wheel measuring device.

(b) Other light equipment: Screens for sifting debris, wheelbarrows, metal trash cans, power saw, cutting torch equipment, ladders, portable lighting equipment, metal detector, large plastic sheets, photographic equipment, and parachute harness with related rope and pulleys.

(c) Heavy equipment: Truck, front-end loader,

bulldozer, crane, and shoring materials.

(d) Personal equipment: Hard hats, safety goggles, gloves (work and rubber types), foul weather clothing, coveralls, and work shoes.

(e) Crime scene kit: Usual equipment used for the collection, preservation, and identification of physical evidence.

(f) Vehicle: If the bombed target was a vehicle, bring an identical vehicle, if possible, to the scene to assist in identifying fragmented and mutilated items.

(8) Search for evidence: Bear in mind the search for evidence at a bombing crime scene is important because the crime may contain principal evidence which will lead to the identification of the bomber(s) and/or assist in the successful prosecution of the matter. The following guidelines are general in nature as the exact method of searching depends on various uncontrollable factors:

(a) Place one person in overall charge of the collection of the evidence from the various collectors as valuable evidence may not be admissible in court if a proper "chain of custody" cannot be established.

(b) Do not stop the search after a few items of evidence have been found. Experience has shown that a thorough, persistent search will locate remains of most of the bomb components.

(c) Avoid the tendency to concentrate only on physical evidence, such as safety fuse, detonating cord, blasting caps, leg (electrical) wire, dynamite wrappers, batteries, clock and timing devices, electronic and electrical components, metal end cap from a TNT block, plastic end cap from a C4 block, explosive residues, and unconsumed explosives, which may represent a bomb as this can result in overlooking other valuable evidence, such as fingerprints, hair, fibers, soil, blood, paint, plastic, tape, tools, toolmarks, metals, writing, paper, printing, cardboard, wood, leather, and tire tread-shoe print impressions.

(d) Conduct a well organized, thorough, and careful search to prevent the necessity of a second search. However, have a secure "dump" area for debris in the event a second search is necessary.

(e) |Simultaneously commence the scene search from

both the site of the explosion and from the extreme perimeter toward the center. If the bomb crater is in earth, obtain soil samples from the perimeter of the crater, as well as from the sides and bottom, making sure to dig into the substrata. If the crater is in another material, obtain similar samples.

(f) Sift small debris through a 1/4-inch wire screen onto an insect-type wire screen. Usually these screens are placed on 2-foot square wooden frames constructed from 2- by 4-inch lumber. NO more than three workers should work on a screen.

(g) X-ray the bodies of living and deceased victims who were in close proximity of the explosion site for possible physical evidence and if possible, have the evidence removed. Their clothing should be retained as it may contain explosive residues. Also, obtain all medical reports concerning the victims' injuries/circumstances of death.

(h) Search a sufficient distance from the site of the explosion as evidence has been found several blocks from the sites of large explosions.

(i) Determine the possible flight paths of bomb components to prevent needless searching.

(j) Search trees, shrubbery, telephone poles, and the roofs, ledges, and gutters of buildings.

(k) Establish a search pattern for large areas. A line of searchers moving forward has been found to be a satisfactory method. A bomb scene specialist should follow the line of searchers to evaluate the items found, control the searchers, and furnish guidance. If a second search is desired, the positions of the searchers on the line should be rotated.

(l) Retain all items foreign to the scene and items which the searchers cannot identify after seeking the assistance of those familiar with the bombed target.

(m) Obtain known standards of wire and building material from the bomb scene to be submitted to the Laboratory for elimination purposes.

(n) Collect and preserve street signs, such as no parking or stop signs that may have captured explosives residue following the bombing. If it is not possible to remove and collect

the sign immediately, a plastic bag should be placed over the sign until explosives residues can be removed and packaged for analysis.

(o) Have a chemist screen each crime scene worker for possible contamination with explosives in accordance with existing policy.

(p) Do not wear crime scene clothing that has been used for explosive training, research with explosives, clothing normally used for firearms practice or has been worn at other bombing crime scene searches or the search of a bombing suspect or bomb factory unless the clothing has been thoroughly cleaned by a commercial laundry.

EFFECTIVE: 04/07/97

13-6.6 Packaging Chart (See MIOG, Part II, 13-3.1(4)(b), 13-3.1.2, 13-6.4.7(3)(c), 13-6.7(20)(d); NFIP Manual, Part I, 5-6.3(14)(b).)

The following chart should be followed to properly prepare a package for shipment of numerous and/or bulky items of evidence apart from the original written request for an examination(s). For additional guidance and instructions see 13-3.1.2 (Shipment of Evidence "Under Separate Cover") above.

ILLUSTRATION NOT SHOWN - SEE "ERL SEARCHING GUIDE," APPENDIX

1. Pack bulk evidence securely in box.
2. SEAL box and mark as evidence. Mark "Latent" if necessary.
3. Place copy of transmittal letter in envelope and mark "Invoice."
4. Stick envelope to OUTSIDE of sealed box.
5. Wrap sealed box in outside wrapper and SEAL with gummed paper.
6. Address to: Director
   Federal Bureau of Investigation
   935 Pennsylvania Avenue, NW
   Washington, D.C. 20535-0001
   "Attention FBI Laboratory, Evidence Control Center."

Cover label with yellow transparent tape and attach

it securely to the package.

7. If packing box is wooden--tack invoice envelope to top under a transparent yellow cover.

EFFECTIVE: 04/01/96

13-6.7 Evidence Chart (See MIOG, Part I, 91-8(11), 139-3; Part II, 13-3.1(4), 13-3.1.2 (1),(9), 13-6.4.7 (3)(c).)

The following chart is provided to give assistance in the collection, identification, preservation, packaging, and sending of evidence to the Laboratory. This chart should be used in conjunction with similar evidence information contained elsewhere in this section under each type of examination desired. This evidence information and chart are not intended to be all inclusive, and does not pertain to latent fingerprint evidence.

(1) SPECIMEN - ABRASIVES, INCLUDING CARBORUNDUM, EMERY, SAND, ETC.:

(a) STANDARD (AMOUNT DESIRED) - Not less than one ounce

(b) EVIDENCE (AMOUNT DESIRED) - All

(c) SEND BY - Registered mail or Federal Express

(d) IDENTIFICATION - On outside of container: Type of material, date obtained, name or initials

(e) WRAPPING AND PACKING - Use sturdy containers, such as 35 mm film canister or pharmaceutical container. Seal to prevent any loss.

(f) REMARKS - Avoid use of envelopes

(2) SPECIMEN - ACIDS:

(a) STANDARD (AMOUNT DESIRED) - 100 milliliters (ml.)

(b) EVIDENCE (AMOUNT DESIRED) - All to 100 ml.

(c) SEND BY - Federal Express or United Parcel Service

(d) IDENTIFICATION - On outside of container: Type of material, date obtained, name or initials

(e) WRAPPING AND PACKING - Plastic or all-glass bottle. Tape stopper. Pack in vermiculite or other absorbent material.

(f) REMARKS - Label "acids-corrosive."

(3) SPECIMEN - ADHESIVE TAPE:

(a) STANDARD (AMOUNT DESIRED) - Recovered roll

(b) EVIDENCE (AMOUNT DESIRED) - All

(c) SEND BY - Registered mail

(d) IDENTIFICATION - On outside of container: Type of material, date obtained, name or initials

(e) WRAPPING AND PACKING - Place on waxed paper cellophane.

(f) REMARKS - Do not cut, wad or distort.

(4) SPECIMEN - ALKALIES - CAUSTIC SODA, POTASH, AMMONIA, ETC.:

(a) STANDARD (AMOUNT DESIRED) - 100 ml., 100 grams (gm.)

(b) EVIDENCE (AMOUNT DESIRED) - All to 100 ml., All to 100 gm.

(c) SEND BY - Federal Express or United Parcel Service

(d) IDENTIFICATION - On outside of container: Type of material, date obtained, name or initials

(e) WRAPPING AND PACKING - Plastic or glass bottle with rubber stopper held with adhesive tape. Pack in sawdust or vermiculite. Label "Corrosive Material-Alkali" and volume.

(f) REMARKS - Label alkali-corrosive.

(5) SPECIMEN - AMMUNITION (CARTRIDGES): (See (29).)

(a) SEND BY - For instructions re: shipping live ammunition, see 13-12.4.2 in this section.

(b) IDENTIFICATION - On outside of container: Type of material, date obtained, name or initials

(c) WRAPPING AND PACKING - For instructions re: shipping of live ammunition, see 13-12.4.2 in this section. (See also 13-12.4.3.)

(d) REMARKS - Unless specific examination of cartridge is essential, do not submit.

(6) SPECIMEN - ANONYMOUS LETTERS, EXTORTION LETTERS, BANK ROBBERY NOTES: (See (19), (20), (22), (23), (43), (52), (65))

(a) EVIDENCE (AMOUNT DESIRED) - All (Original documents, not copies, whenever possible)

(b) SEND BY - Registered mail

(c) IDENTIFICATION - Initial and date each unless legal aspects or good judgment dictates otherwise.

(d) WRAPPING AND PACKING - Place in proper enclosure envelope and seal with "Evidence" tape or transparent cellophane tape. Flap side of envelope should show (1) wording "Enclosure(s) to FBIHQ from (name of submitting office)," (2) title of case, (3) brief description of contents, and (4) file number, if known. Staple to original letter of transmittal.

(e) REMARKS - Do not handle with bare hands. Advise if evidence should be treated for latent fingerprints.

(7) SPECIMEN - BILE:

(a) STANDARD (AMOUNT DESIRED) - 10 milliliters

(b) SEND BY - Most expeditious means available

(c) IDENTIFICATION - Label container identifying

sample name of subject, date taken, initials of Agent.

(d) WRAPPING AND PACKING - Container in cardboard box with paper or styrofoam packing.

(e) REMARKS - Hold in freezer until personally delivered or pack in dry ice for mailing by most expeditious means available. Attach autopsy report.

(8) SPECIMEN - BLASTING CAPS (CONTACT MATERIALS AND DEVICES UNIT FOR INSTRUCTIONS.)

(9) SPECIMEN - BLOOD - LIQUID KNOWN SAMPLES: (See 13-8.1.4, 13-8.2.5 (3) & 13-8.4 (5).)

(a) STANDARD (AMOUNT DESIRED) - 1 red top (no preservative) vacutainer vial for serological analysis and 1 purple top (EDTA) vacutainer vial for DNA analysis

(b) EVIDENCE (AMOUNT DESIRED) - All

(c) SEND BY - Air mail special delivery - air freight or similar rapid transit method

(d) IDENTIFICATION - Use adhesive tape on outside of test tube. Name of donor, date taken, doctor's name, name or initials of Agent.

(e) WRAPPING AND PACKING - Wrap in cotton, soft paper. Place in mailing tube or suitably strong mailing carton.

(f) REMARKS - Submit immediately. Don't hold awaiting additional items for comparison. Keep under refrigeration, NOT freezing, until mailing. NO refrigerants and/or dry ice should be added to sample during transit. Fragile label.

(10) SPECIMEN - BLOOD - SMALL QUANTITIES (LIQUID QUESTIONED SAMPLES): (See MIOG, Part II, 13-8.1.4.)

(a) EVIDENCE (AMOUNT DESIRED) - All

(b) SEND BY - Air mail special delivery - air freight or similar rapid transit method

(c) IDENTIFICATION - Use adhesive tape on outside of test tube. Name of donor, date taken, doctor's name, name or initials

of Agent.

(d) WRAPPING AND PACKING - Wrap in cotton, soft paper. Place in mailing tube or suitably strong mailing carton.

(e) REMARKS - If unable to EXPEDITIOUSLY furnish sample, allow to dry thoroughly on the nonporous surface, and scrape off; or collect by using eyedropper or clean spoon, transfer to nonporous surface and let dry; or absorb in sterile gauze and let dry.

(11) SPECIMEN - BLOOD - SMALL QUANTITIES (DRY STAINS NOT ON FABRICS): (See MIOG, Part II, 13-8.1.4.)

(a) EVIDENCE (AMOUNT DESIRED) - As much as possible

(b) SEND BY - Registered mail

(c) IDENTIFICATION - On outside of pillbox or plastic vial. Type of specimen date secured, name or initials.

(d) WRAPPING AND PACKING - Seal to prevent leakage.

(e) REMARKS - Keep dry. Avoid use of envelopes for scrapings.

(12) SPECIMEN - BLOOD - SMALL QUANTITIES (FOR TOXICOLOGICAL USE): (See MIOG, Part II, 13-8.1.4, 13-8.2.4 (3).)

(a) EVIDENCE (AMOUNT DESIRED) - 20 cc. (Blood and preservative mixture)

(b) SEND BY - Air mail special delivery - air freight or similar rapid transit method

(c) IDENTIFICATION - Use adhesive tape on outside of test tube. Name of donor, date taken, doctor's name, name or initials of Agent.

(d) WRAPPING AND PACKING - Medical examiner should use a standard blood collection kit.

(e) REMARKS - Preservative desired (identify preservation used). Refrigerate. CAN freeze.

(13) SPECIMEN - BLOOD - STAINED CLOTHING, FABRIC, ETC.: (See MIOG, Part II, 13-8.1.4.)

(a) EVIDENCE (AMOUNT DESIRED) - As found

(b) SEND BY - Registered mail, Federal Express, United Parcel Service (UPS)

(c) IDENTIFICATION - Use tag or mark directly on clothes. Type of specimens, date secured, name or initials.

(d) WRAPPING AND PACKING - Each article wrapped separately and identified on outside of package. Place in strong box placed to prevent shifting of contents. Brown paper bags should be used for air-dried, blood-stained clothing items.

(e) REMARKS - If wet when found, DRY BY HANGING. USE NO HEAT TO DRY. Avoid direct sunlight while drying. Use no preservatives.

(14) SPECIMEN - BODY ORGANS (BRAIN, KIDNEY, LIVER, LUNG): (See (33) and (70) below, and MIOG, Part II, 13-10.1.5.)

(a) EVIDENCE (AMOUNT DESIRED) - 75 grams of each

(b) SEND BY - Most expeditious means available

(c) IDENTIFICATION - Label container indicating organ, name of subject, date taken, initials of Agent

(d) WRAPPING AND PACKING - Styrofoam container preferred to keep specimens frozen

(e) REMARKS - Hold in freezer until personally delivered or pack in dry ice for mailing by most expeditious means available. Attach autopsy report.

(15) SPECIMEN - BULLETS (NOT CARTRIDGES): (See MIOG, Part II, 13-12.4.3.)

(a) EVIDENCE (AMOUNT DESIRED) - All found

(b) SEND BY - Registered mail

(c) IDENTIFICATION - Initial or otherwise mark primary container only

(d) WRAPPING AND PACKING - Pack tightly in cotton or

soft paper in pill, match or powder box. Label outside of box as to contents.

(e) REMARKS - Unnecessary handling obliterates marks

(16) SPECIMEN - CARTRIDGES (LIVE AMMUNITION):

(a) EVIDENCE (AMOUNT DESIRED) - All found

(b) SEND BY - For instructions re: shipping live ammunition, see paragraph 13-12.4.2 in this section.

(c) IDENTIFICATION - Initial or otherwise mark primary container only

(d) WRAPPING AND PACKING - Pack tightly in cotton or soft paper in pill, match or powder box. Label outside of box as to contents.

(17) SPECIMEN - CARTRIDGE CASES (SHELLS): (See MIOG, Part II, 13-12.4.3.)

(a) EVIDENCE (AMOUNT DESIRED) - All

(b) SEND BY - Registered mail

(c) IDENTIFICATION - Initial or otherwise mark primary container only

(d) WRAPPING AND PACKING - Pack tightly in cotton or soft paper in pill, match or powder box. Label outside of box as to contents.

(18) SPECIMEN - CHARRED OR BURNED DOCUMENTS: (See 13-17.4 (13).)

(a) EVIDENCE (AMOUNT DESIRED) - All

(b) SEND BY - Registered mail

(c) IDENTIFICATION - On outside of container indicate fragile nature of evidence, date obtained, name or initials.

(d) WRAPPING AND PACKING - Utilize polyester film encapsulation technique (contact Investigative Operations and Support Section for instructions) OR Ship charred paper in original container

in which it was burned at crime scene OR Pack in rigid container between layers of cotton. Do not compress layers.

(e) REMARKS - Added moisture, with atomizer or otherwise, NOT RECOMMENDED.

(19) SPECIMEN - CHECKS (FRAUDULENT):

(a) EVIDENCE (AMOUNT DESIRED) - All (Original documents, not copies, whenever possible)

(b) SEND BY - Registered mail

(c) IDENTIFICATION - See Anonymous Letters (6) above

(d) WRAPPING AND PACKING - See Anonymous Letters (6) above

(e) REMARKS - Advise what parts questioned or known. Furnish physical description of subject.

(20) SPECIMEN - CHECK PROTECTOR, RUBBER STAMP AND/OR DATER STAMP KNOWN STANDARDS (NOTE: SEND ACTUAL DEVICE WHEN POSSIBLE)

(a) STANDARD (AMOUNT DESIRED) - Obtain several copies in full word-for-word order of each questioned check-writer impression. If unable to forward rubber stamps, prepare numerous samples with different degrees of pressure.

(b) SEND BY - Registered mail

(c) IDENTIFICATION - Place name or initials, date, name of make and model, etc., on sample impressions.

(d) WRAPPING AND PACKING - See Anonymous Letters (6) above and/or Packaging Chart (paragraph 13-6.6) above

(e) REMARKS - Do not disturb inking mechanisms on printing devices

(21) SPECIMEN - CLOTHING:

(a) EVIDENCE (AMOUNT DESIRED) - All

(b) SEND BY - Registered mail, or Federal Express or United Parcel Service (UPS)

(c) IDENTIFICATION - Mark directly on garment or use string tag. Type of evidence, name or initials, date.

(d) WRAPPING AND PACKING - Each article individually wrapped with identification written on outside of package. Place in strong container. Clothing items should be individually packaged in paper bags.

(e) REMARKS - Leave clothing whole. Do not cut out stains. If wet, HANG IN ROOM TO DRY before packing.

(22) SPECIMEN - CODES, CIPHERS AND FOREIGN LANGUAGE MATERIAL:

(a) EVIDENCE (AMOUNT DESIRED) - All

(b) SEND BY - Registered mail

(c) IDENTIFICATION - Same as Anonymous Letters (6) above

(d) WRAPPING AND PACKING - Same as Anonymous Letters (6) above

(e) REMARKS - Furnish pertinent background and technical information.

(23) SPECIMEN - COMPUTER AND COMPUTER-RELATED ITEMS: (See (46))

(a) EVIDENCE (AMOUNT DESIRED) - All

(b) SEND BY - Floppy disks - registered mail; hard disks - by overnight express.

(c) IDENTIFICATION - Label container indicating date taken and initials of Agent.

(d) WRAPPING AND PACKING - See Anonymous Letters (6) above. Package or envelope should be marked "Magnetic Media Evidence Enclosed. Do not X-ray."

(e) REMARKS - If computer diskettes are submitted, accompanying communication should, if possible, contain information regarding the make and model of computer used in their preparation.

(24) SPECIMEN - DRUGS - LIQUIDS: (See (35), (36), (49))

(a) EVIDENCE (AMOUNT DESIRED) - All

(b) SEND BY - Registered mail, UPS or air express

(c) IDENTIFICATION - Affix label to bottle in which found, including name or initials and date.

(d) WRAPPING AND PACKING - Bottle with sealable top.

(e) REMARKS - Determine alleged normal use of drug and if prescription, check with druggist for supposed ingredients.

(25) SPECIMEN - DRUGS - POWDERS, PILLS, SOLIDS: (See (35), (49))

(a) EVIDENCE (AMOUNT DESIRED) - All

(b) SEND BY - Registered mail, UPS or air express

(c) IDENTIFICATION - On outside of pillbox, name or initials and date

(d) WRAPPING AND PACKING - Seal to prevent any loss by use of tape

(26) SPECIMEN - DYNAMITE AND OTHER EXPLOSIVES OR SUSPECTED EXPLOSIVES (CONTACT MATERIALS AND DEVICES UNIT FOR INSTRUCTIONS AND SHIPPING CONTAINERS.)

(27) SPECIMEN - FIBERS:

(a) STANDARD (AMOUNT DESIRED) - Entire garment or other cloth item

(b) EVIDENCE (AMOUNT DESIRED) - All

(c) SEND BY - Registered mail

(d) IDENTIFICATION - On outside of sealed container or on object to which fibers are adhering.

(e) WRAPPING AND PACKING - Folded paper or pillbox. Seal edges and openings with tape.

(f) REMARKS - Do not place loose in envelope.

(28) SPECIMEN - FILM:

(a) EVIDENCE (AMOUNT DESIRED) - All

(b) SEND BY - Registered mail

(c) IDENTIFICATION - If not developed mark outside "DO NOT X-RAY."

(d) WRAPPING AND PACKING - If not developed wrap in lightproof container.

(29) SPECIMEN - FIREARMS: (See MIOG, Part II, 13-12.4.3, 13-12.5; MAOP, Part II, 2-2.2.2, 6-2.3.9.)

(a) EVIDENCE (AMOUNT DESIRED) - All

(b) SEND BY - Registered mail or Federal Express

(c) IDENTIFICATION - Mark inconspicuously as if it were your own. Investigative notes should reflect how and where gun marked.

(d) WRAPPING AND PACKING - Wrap in paper and identify contents of package. Place in cardboard box or wooden box.

(e) REMARKS - Unload all weapons before shipping. Keep from rusting. See Ammunition (5) above, if applicable.

(30) SPECIMEN - FLASH PAPER:

(a) SEND BY - Contact Investigative Operations and Support Section for instructions

(b) IDENTIFICATION - Initials and date.

(c) WRAPPING AND PACKING - Individual polyethylene envelopes double wrapped in manila envelopes. Inner wrapper sealed with paper tape.

(d) REMARKS - Store between moistened sheets of blotter paper, with dry ice. Refrigerate if extended storage is necessary.

(31) SPECIMEN - FUSE (SAFETY) (CONTACT MATERIALS AND DEVICES UNIT FOR COMPLETE INSTRUCTIONS)

(32) SPECIMEN - GASOLINE: (See MIOG, Part II, 13-10.3.4.)

(a) STANDARD (AMOUNT DESIRED) - 100 ml.

(b) EVIDENCE (AMOUNT DESIRED) - All to 100 ml.

(c) SEND BY - UPS or Federal Express

(d) IDENTIFICATION - On outside of container, label with type of material, name or initials, and date.

(e) WRAPPING AND PACKING - Use sturdy box containing break-proof bottles and absorbent packing.

(f) REMARKS - Shipping regulation - allow 4 oz. maximum per bottle.

(33) SPECIMEN - GASTRIC CONTENTS:

(a) EVIDENCE (AMOUNT DESIRED) - All available

(b) SEND BY - Most expeditious means available

(c) IDENTIFICATION - Label container indicating "gastric contents," name of subject, date taken, initials of Agent.

(d) WRAPPING AND PACKING - Bottle with sealable top and pack as indicated under "Body organs," (14) above.

(e) REMARKS - Mark package "Keep Refrigerated."

(34) SPECIMEN - GEMS: (See MIOG, Part II, 13-11.7.)

(a) EVIDENCE (AMOUNT DESIRED) - All

(b) SEND BY - Registered mail

(c) IDENTIFICATION - On outside of container

(d) WRAPPING AND PACKING - Use 35 mm film canister or pharmaceutical container.

(35) SPECIMEN - GENERAL UNKNOWN - SOLIDS (NONHAZARDOUS):

(a) STANDARD (AMOUNT DESIRED) - 100 gms.

(b) EVIDENCE (AMOUNT DESIRED) - All to 100 gms.

(c) SEND BY - Registered mail

(d) IDENTIFICATION - Name or initials, date on outside of sealed container.

(e) WRAPPING AND PACKING - Same as Drugs, (24) and (25) above.

(f) REMARKS - If item is suspected of being a hazardous material, treat as such and contact Materials and Devices Unit for shipping instructions.

(36) SPECIMEN - GENERAL UNKNOWN - LIQUIDS (NONHAZARDOUS):

(a) STANDARD (AMOUNT DESIRED) - 100 ml.

(b) EVIDENCE (AMOUNT DESIRED) - All to 100 ml.

(c) SEND BY - Registered mail

(d) IDENTIFICATION - Same as for liquid drugs, (24) above.

(e) WRAPPING AND PACKING - Same as drugs, (24) above.

(f) REMARKS - If item is suspected of being a hazardous material, treat as such and contact Materials and Devices Unit for shipping instructions.

(37) SPECIMEN - GLASS FRAGMENTS: (See MIOG, Part II, 13-11.1.3.)

(a) EVIDENCE (AMOUNT DESIRED) - All

(b) SEND BY - Registered mail, UPS or air express

(c) IDENTIFICATION - Adhesive tape on each piece. Name or initials and date on tape. Separate questioned and known.

(d) WRAPPING AND PACKING - Wrap each piece separately in cotton. Pack in strong box to prevent shifting and breakage. Identify contents.

(e) REMARKS - Avoid chipping and mark "Fragile."

(38) SPECIMEN - GLASS PARTICLES: (See MIOG, Part II, 13-11.1.3.)

(a) STANDARD (AMOUNT DESIRED) - All of bottle or headlight. Small piece of each broken pane.

(b) EVIDENCE (AMOUNT DESIRED) - All

(c) SEND BY - Registered mail

(d) IDENTIFICATION - Name or initials, date on outside of sealed container

(e) WRAPPING AND PACKING - Use 35 mm film canister or pharmaceutical container.

(f) REMARKS - Do not use envelopes or bags which will tear.

(39) SPECIMEN - GLASS WOOL INSULATION: (See (45))

(a) STANDARD (AMOUNT DESIRED) - 1-inch mass from each suspect area

(b) EVIDENCE (AMOUNT DESIRED) - All

(c) SEND BY - Registered mail

(d) IDENTIFICATION - Name or initials, date on outside of sealed container

(e) WRAPPING AND PACKING - Sealed container

(40) DELETED

(41) SPECIMEN - GUNSHOT RESIDUES - ON CLOTH: (See (57) and MIOG, Part II, 13-12.4.1.)

(a) EVIDENCE (AMOUNT DESIRED) - All

(b) SEND BY - Registered mail

(c) IDENTIFICATION - Attach string tag or mark directly. Type of material, date, and name or initials.

(d) WRAPPING AND PACKING - Place fabric flat between layers of paper and then wrap so that no residue will be transferred or lost.

(e) REMARKS - Avoid shaking.

(42) SPECIMEN - HAIR:

(a) STANDARD (AMOUNT DESIRED) - 25 or more full length hairs randomly selected from head or pubic regions. Should include both pluckings and combings, separately enclosed in envelopes and marked accordingly.

(b) EVIDENCE (AMOUNT DESIRED) - All

(c) SEND BY - Registered mail

(d) IDENTIFICATION - On outside of container. Type of material, date, and name or initials.

(e) WRAPPING AND PACKING - Folded paper or pillbox. Seal edges and openings with tape.

(f) REMARKS - Do not place loose in envelope.

(43) SPECIMEN - HANDWRITING AND HAND PRINTING, KNOWN STANDARDS:

(a) STANDARD (AMOUNT DESIRED) - For instructions re: obtaining known standards, see paragraph 13-17.2.3 in this section

(b) SEND BY - Registered mail

(c) IDENTIFICATION - Name or initials, date, from whom obtained, and voluntary statement should be included in appropriate place.

(d) WRAPPING AND PACKING - Same as Anonymous Letters (6) above.

(44) SPECIMEN - HOAX BOMB DEVICES AND/OR COMPONENTS (FOR

INSTRUCTIONS, CONTACT THE MATERIALS AND DEVICES UNIT.) (See also MIOG, Part I, 91-8; Part II, 13-16.6.)

(45) SPECIMEN - INSULATION (SEE GLASS WOOL INSULATION, (39) ABOVE.)

(46) SPECIMEN - MAGNETIC MEDIA (SEE COMPUTER, (23) ABOVE.)

(47) SPECIMEN - MAGNETIC TAPE RECORDINGS (SEE MIOG, PART I, 139-3(2)(d), PART II, SECTION 16, PARAGRAPHS 16-8 TO 16-8.2.4.)

(48) SPECIMEN - MATCHES:

(a) STANDARD (AMOUNT DESIRED) - One to two books of paper. One full box of wood.

(b) EVIDENCE (AMOUNT DESIRED) - All

(c) SEND BY - UPS or Federal Express

(d) IDENTIFICATION - On outside of container. Type of material, date, and name or initials.

(e) WRAPPING AND PACKING - Metal container and packed in larger package to prevent shifting. Matches in box or metal container packed to prevent friction between matches.

(f) REMARKS - Keep away from fire. "Keep away from fire" label

(49) SPECIMEN - MEDICINES (SEE DRUGS, (24) AND (25) ABOVE.)

(50) SPECIMEN - METAL:

(a) STANDARD (AMOUNT DESIRED) - One pound

(b) EVIDENCE (AMOUNT DESIRED) - All to one pound

(c) SEND BY - Registered mail, UPS or air express

(d) IDENTIFICATION - On outside of container. Type of material, date, and name or initials.

(e) WRAPPING AND PACKING - Use paper boxes or containers. Seal and use strong paper or wooden box.

(f) REMARKS - Melt number, heat treatment, and other specifications of foundry if available. Keep from rusting.

(51) SPECIMEN - OIL: (See MIOG, Part II, 13-10.3.4.)

(a) STANDARD (AMOUNT DESIRED) - 250 ml. together with specifications

(b) EVIDENCE (AMOUNT DESIRED) - All to 250 ml.

(c) SEND BY - Any method

(d) IDENTIFICATION - On outside of container. Type of material, date, and name or initials.

(e) WRAPPING AND PACKING - Container with tight screw top. Pack in strong box using excelsior or similar material.

(f) REMARKS - Keep away from fire.

(52) SPECIMEN - OBLITERATED, ERADICATED, OR INDENTED WRITING:

(a) EVIDENCE (AMOUNT DESIRED) - All

(b) SEND BY - Registered mail

(c) IDENTIFICATION - Same as Anonymous Letters, (6) above

(d) WRAPPING AND PACKING - Same as Anonymous Letters, (6) above

(e) REMARKS - Advise whether bleaching or staining methods may be used. Avoid folding.

(53) SPECIMEN - PAINT - LIQUID:

(a) STANDARD (AMOUNT DESIRED) - Original unopened container, up to 1 gallon if possible

(b) EVIDENCE (AMOUNT DESIRED) - All to 1/4 pint

(c) SEND BY - Registered mail, UPS or air express

(d) IDENTIFICATION - On outside of container. Type of material, origin if known, date, name or initials.

(e) WRAPPING AND PACKING - Friction-top paint can or large-mouth, screw-top jars. If glass, pack to prevent breakage. Use heavy corrugated paper or wooden box.

(54) SPECIMEN - PAINT - SOLID (PAINT CHIPS OR SCRAPINGS):

(a) STANDARD (AMOUNT DESIRED) - At least 1/2 square inch of painted area if possible, with all layers represented. Take representative samples from several areas of known source and secure separately.

(b) EVIDENCE (AMOUNT DESIRED) - All. If on small object, send object.

(c) SEND BY - Registered mail, UPS or air express

(d) IDENTIFICATION - On outside of container. Type of material, origin if known, date, name or initials.

(e) WRAPPING AND PACKING - Use 35 mm film canister or pharmaceutical container. Seal to prevent leakage. Paper and plastic envelopes are not satisfactory. Do not pack in cotton.

(f) REMARKS - Avoid contact with adhesive materials such as fingerprint lifting tape or other pressure sensitive tape. Wrap so as to protect smear.

(55) SPECIMEN - PHOTOGRAPHS:

(a) EVIDENCE (AMOUNT DESIRED) - All

(b) SEND BY - Registered mail

(c) IDENTIFICATION - If not developed mark outside "DO NOT X-RAY"

(d) WRAPPING AND PACKING - If not developed wrap in lightproof container.

(56) SPECIMEN - DENTAL STONE CASTS OF TIRE TREADS AND SHOE PRINTS: (See 13-19.1.2.)

(57) SPECIMEN - POWDER PATTERNS (SEE GUN SHOT RESIDUES, (41) ABOVE.)

(58) SPECIMEN - ROPE, TWINE, AND CORDAGE:

(a) STANDARD (AMOUNT DESIRED) - One yard or amount available

(b) EVIDENCE (AMOUNT DESIRED) - All

(c) SEND BY - Registered mail

(d) IDENTIFICATION - On tag or container. Type of material, date, name or initials.

(e) WRAPPING AND PACKING - Wrap securely.

(59) SPECIMEN - SAFE INSULATION: (See MIOG, Part II, 13-11.3.2.)

(a) STANDARD (AMOUNT DESIRED) - Sample all damaged areas

(b) EVIDENCE (AMOUNT DESIRED) - All

(c) SEND BY - Registered mail, UPS or air express

(d) IDENTIFICATION - On outside of container. Type of material, date, name or initials

(e) WRAPPING AND PACKING - Use 35 mm film canister or pharmaceutical container. Seal to prevent any loss.

(f) REMARKS - Avoid use of glass containers and envelopes.

(60) SPECIMENS - SALIVA SAMPLES: (See MIOG, Part II, 13-8.2.4.)

(a) STANDARD (AMOUNT DESIRED) - Collect on saliva swab (cotton-tipped applicator), generally, five-inch long wooden stick with cotton tip.

(b) EVIDENCE (AMOUNT DESIRED) - All

(c) SEND BY - Registered mail

(d) IDENTIFICATION - On outside envelope put type of sample, date and place of collection and collector's initials.

(e) WRAPPING AND PACKING - Seal in envelope.

(f) REMARKS - Applicators can be purchased in individually wrapped sterile packets which contain a single sterile swab. Allow to dry before placing in envelope.

(61) SPECIMEN - SHOE PRINT LIFTS (IMPRESSIONS ON HARD SURFACES): (See MIOG, Part II, 13-19.1.3.)

(a) STANDARD (AMOUNT DESIRED) - Photograph before making of dust impression.

(b) EVIDENCE (AMOUNT DESIRED) - All

(c) SEND BY - Registered mail

(d) IDENTIFICATION - On lifting tape or paper attached to tape. Name or initials and date.

(e) WRAPPING AND PACKING - Prints in dust are easily damaged. Fasten print or lift to bottom of a box so that nothing will rub against it.

(f) REMARKS - Always rope off crime scene area until shoe prints or tire treads are located and preserved.

(62) SPECIMEN - SOILS AND MINERALS: (See MIOG, Part II, 13-11.2.2 and 13-11.2.3.)

(a) STANDARD (AMOUNT DESIRED) - Samples from areas near pertinent spot.

(b) EVIDENCE (AMOUNT DESIRED) - All

(c) SEND BY - Registered mail

(d) IDENTIFICATION - On outside of container. Type of material, date, name or initials.

(e) WRAPPING AND PACKING - Use 35 mm film canister or pharmaceutical container.

(f) REMARKS - Avoid glass containers and envelopes.

(63) SPECIMEN - TOOLS:

(a) EVIDENCE (AMOUNT DESIRED) - All

(b) SEND BY - Registered mail, UPS or air express

(c) IDENTIFICATION - On tools or use string tag. Type of tool, identifying number, date, name or initials.

(d) WRAPPING AND PACKING - Wrap each tool in paper. Use strong cardboard or wooden box with tools packed to prevent shifting.

(64) SPECIMEN - TOOLMARKS: (See (72) and MIOG, Part II, 13-13.3, 13-13.4.)

(a) STANDARD (AMOUNT DESIRED) - Send in the tool. If impractical, call Firearms/Toolmarks Unit for instructions.

(b) EVIDENCE (AMOUNT DESIRED) - All

(c) SEND BY - Registered mail, UPS or air express

(d) IDENTIFICATION - On object or on tag attached to or on opposite end from where toolmarks appear. Name or initials and date.

(e) WRAPPING AND PACKING - After marks have been protected with soft paper, wrap in strong wrapping paper, place in strong box, and pack to prevent shifting.

(65) SPECIMEN - TYPEWRITING, KNOWN STANDARDS:

(a) STANDARD (AMOUNT DESIRED) - For instructions re: obtaining known standards see paragraph 13-17.2.4 in this section

(b) SEND BY - Registered mail

(c) IDENTIFICATION - Place name or initials, date, serial number, name of make and model, etc., on specimens.

(d) WRAPPING AND PACKING - Same as Anonymous Letters, (6) above.

(e) REMARKS - Examine ribbon for evidence of questioned message thereon.

(66) SPECIMEN - URINE:

(a) STANDARD (AMOUNT DESIRED) - 50 cc minimum

(b) SEND BY - Registered mail

(c) IDENTIFICATION - Label container indicating "urine," name of subject, date taken, initials of Agent.

(d) WRAPPING AND PACKING - Bottle with sealable top, surrounded with absorbent material to prevent breakage. Strong cardboard or wooden box, refrigerate if possible.

(e) REMARKS - Mark package "Keep Refrigerated."

(67) SPECIMEN - VAGINAL SAMPLES - SLIDES (MICROSCOPE): (See (68) and MIOG, Part II, 13-8.2.5.)

(a) EVIDENCE (AMOUNT DESIRED) - Minimum of two slides

(b) SEND BY - Registered mail

(c) IDENTIFICATION - Label with type of sample, name of donor, date and place of collection and collector's initials.

(d) WRAPPING AND PACKING - Use commercial slide box.

(e) REMARKS - Slide box available at hospitals. Doctor should not fix slides. No cover slips. Air dry.

(68) SPECIMEN - VAGINAL SAMPLES - SWABS: (See MIOG, Part II, 13-8.2.5.)

(a) STANDARD (AMOUNT DESIRED) - Two unstained swabs from same package as stained.

(b) EVIDENCE (AMOUNT DESIRED) - Minimum of two swabs

(c) SEND BY - Express mail

(d) IDENTIFICATION - Same as (67) above.

(e) WRAPPING AND PACKING - Seal in envelope.

(f) REMARKS - Allow swabs to dry before packaging, refrigerate or freeze.

(69) SPECIMEN - VIDEO TAPES:

(a) EVIDENCE (AMOUNT DESIRED) - Always submit original

(b) SEND BY - Registered mail

(c) IDENTIFICATION - Place name or initials, date and identification number on cassette housing.

(d) WRAPPING AND PACKING - Wrap securely. Strong cardboard box with three inches of paper crumpled around all sides of the video tapes. Do not use foam packing material.

(e) REMARKS - Mark the package "Video Tape" or "Recorded Magnetic Medium."

(70) SPECIMEN - VITREOUS HUMOR:

(a) STANDARD (AMOUNT DESIRED) - All

(b) SEND BY - Most expeditious means available

(c) IDENTIFICATION - Label container indicating "vitreous humor," name of subject, date taken, initials of Agent

(d) WRAPPING AND PACKING - Glass bottle with sealable top and pack as indicated for "Body organs," (14) above.

(e) REMARKS - Refrigerate only (do not freeze) until personally delivered. Keep cool during delivery time. Attach autopsy report.

(71) SPECIMEN - WATER:

(a) STANDARD (AMOUNT DESIRED) - 1 Liter

(b) EVIDENCE (AMOUNT DESIRED) - 1 Liter

(c) SEND BY - Registered mail

(d) IDENTIFICATION - Date and initial

(e) WRAPPING AND PACKING - Use bottle with sealable top.

(72) SPECIMEN - WIRE (SEE ALSO TOOLMARKS, (64) ABOVE.):

(a) STANDARD (AMOUNT DESIRED) - Three feet (Do not kink.)

(b) EVIDENCE (AMOUNT DESIRED) - All (Do not kink.)

(c) SEND BY - Registered mail

(d) IDENTIFICATION - On label or tag. Type of material, date, name or initials.

(e) WRAPPING AND PACKING - Wrap securely.

(f) REMARKS - Do not kink wire.

(73) SPECIMEN - WOOD:

(a) STANDARD (AMOUNT DESIRED) - One foot or amount available.

(b) EVIDENCE (AMOUNT DESIRED) - All

(c) SEND BY - Registered mail

(d) IDENTIFICATION - On label or tag. Type of material, date, name or initials.

(e) WRAPPING AND PACKING - Wrap securely

EFFECTIVE: 11/21/97

13-6.7.1 Hazardous Materials (See MIOG, Part II, 13-3.1(4) and |13-15.1.6; MAOP, Part II, 2-4.4.3.)|

Over 3,000 items, including flash paper, live ammunition, explosives, radioactive materials, flammable liquids and solids, flammable and nonflammable gases, spontaneously combustible substances, and oxidizing and corrosive materials are currently considered as hazardous materials. All require special packaging and the amount of each item which can be shipped is regulated. Therefore, the applicable action listed below is to be taken:

(1) Flash paper: Contact Investigative Operations and Support Section for shipping instructions EACH AND EVERY TIME this item is to be submitted to the Laboratory.

(2) Live ammunition: For shipping instructions see 13-12.4.2 elsewhere in this section.

(3) Other hazardous materials: Contact the|Materials and Devices Unit|for shipping instructions EACH AND EVERY TIME any hazardous material, except flash paper or live ammunition, is to be submitted to the Laboratory.

EFFECTIVE: 04/07/97

13-6.7.2 Nonhazardous Materials

If evidence of this type is not found in this chart or elsewhere in this section, locate a specimen which is most similar in nature and take the appropriate actions or call the Laboratory at 202-FBI-4410 for general instructions.

EFFECTIVE: 05/26/83

13-7 FIELD PHOTOGRAPHY

The purpose of the information under this caption is to provide some of the general guidelines pertaining to Bureau photographic matters and to list by name, description, and use the types of document copying, microfilming, general photographing, and surveillance equipment available to the various field offices. For information concerning photographic examinations conducted in the Laboratory see MIOG, Part II, 13-7.6 and 13-7.6.1.)

EFFECTIVE: 07/25/97

13-7.1 General Guidelines

EFFECTIVE: 04/19/91

13-7.1.1 Laboratory Photographic Responsibilities

b2

(1) The Special Photographic Unit (SPU) of the Laboratory (Room 3449, Extension [redacted] is responsible for all photographic matters to include surveillance photography, nonroutine requests, unusual processing requirements, examination of photographic evidence, and all other photographic equipment requests, repairs, problems, or other inquiries. SPU has been funded to supply the field with most photographic equipment; therefore, requests for routine photographic equipment should be directed to SPU through the field office Photographic Technician. SPU is the funding source for all photographic equipment (there is no other source available to the field). If there is any doubt regarding equipment, contact SPU, for assistance and clarification. SPU also handles all photographic tradecraft in FCI matters.

(2) The SPU also handles all general processing and mass production photographic work. This includes the capability of doing copy work on film of documents, objects, i.e., photographs, jewelry, etc., and duplication of slides and making of slides from original art work for training purposes. SPU handles equipment needs for darkroom and "mug shot" photography. This is defined as photographic processing and finishing, studio and "mug shot" areas to include those facilities in use within the field office and off-site facilities. SPU will also handle the design of field office darkrooms and those

related areas due to moves or renovations. All related equipment selection, procurement, inventory and distribution, including sinks, cabinets, enlargers, miscellaneous darkroom equipment, processing and finishing equipment, mug shot and copying equipment that relate to the darkroom areas will also be handled by|SPU.|

(3) |The SPU is responsible for the processing of the video imagery where the image requires enhancement and the preparation of a photographic print. This video imagery may originate from time-lapse or full-motion video tapes of any format or from still video disks. SPU can provide photographic prints and/or video tapes of these enhanced images. Requests for comparisons of video imagery to known photographic prints or to other submitted evidence (guns, articles of clothing, bags, hats, etc.) should be forwarded directly to SPU. (See 13-7.6.1.)|

|(4)| Submissions to the SPU should be by|electronic communication|under the case caption.

|(5)| The|SPU|of the Laboratory Division oversees the areas of film processing, color and black and white enlarging and camera copy work, and slide reproduction, all on a quantitative basis. |These requests should be submitted with an FD-523.|

|(6)| The film processing functions are inclusive of color negative (C-41), color positive (E-6), microfilms, and all black and white negatives.

|(7)| Color and black and white enlargements made from negatives are processed to specifications which can vary in dimensions of 3 1/2 by 5|inches|to 40 by 60|inches.| There is also the capability of processing color enlargements from slides; however, this involves the preparation of an internegative which can result in the loss of resolution and color reproduction in larger prints.

EFFECTIVE: 07/25/97

13-7.1.2 Personal Identification ("mug") Photographs
|(See MIOG, Part II, 11-4.9.)|

Personal identification color ("mug") photographs should include the head and shoulders in full face view and profile. If not otherwise equipped, use the Mamiya 645, with flash equipment or flood lamps and, if available, a white background. Include identifying data and a visible gray scale in all pictures. If the equipment for this purpose is not available, contact the|Special Photographic Unit| (Room|3449,|Ext. [redacted]

#2

EFFECTIVE: 07/25/97

13-7.1.3 Polaroid Photographs

Polaroid cameras and 4- by 5-inch (Speed Graphic) polaroid film holders are available in many offices. The use of polaroid should be limited to those situations in which an immediate photographic print will definitely further the investigation. In other situations, conventional photography should be used.

EFFECTIVE: 04/19/91

13-7.1.4 Color Photography

The use of color photography should be considered during the course of all investigations where a record of the color or color contrast may be a factor in the evaluation of the evidence. Color photographs may be particularly helpful and important in recording the bloodstains in a crime scene;|color negative|processing should be used. When color photographs are to be made, 120 or 35mm film is preferred. Closely follow the instructions provided with the film as to lighting and exposure data. Good quality color prints can be made from a color negative. If projection slides are desired, color reversal (positive) properly exposed film, such as Ektachrome or 3M CS Type Film and FUJI can be used. (Under no circumstances should Kodachrome film be used.)

EFFECTIVE: 04/19/91

13-7.2 General Photographic Equipment

Name of Equipment	Description	Use
Mamiya 645	120mm roll film camera. Kit includes camera, motor drive, flash and lens.	Aerial, crime scene, "mug" and document photography.
Canon and Nikon Camera Systems	35mm camera. Lens available 24mm-2000mm. Numerous other special application accessories are supplied or are available on request.	Primarily intended for use as a surveillance system. Also used in some concealments and remote applications.

EFFECTIVE: 04/19/91

13-7.3 Microfilming Equipment

Name of Equipment	Description	Use
Attache photocopy units	Portable, completely self-contained, collapsible document copy equipment carried in an attache case, 18" by 12" by 4 3/4", weighing 16 lbs. Electronic photoflash lights powered by self-contained 6-volt (four "C" cells) battery pack or AC/DC. Camera is standard 36 exposure 35mm Olympus with lens. Newer models will have AC/DC	Rapid photography of small number of documents including bound and large-size documents. Do not use color film.

operation and larger film capacity options.

EFFECTIVE: 04/19/91

13-7.4 Deleted

EFFECTIVE: 02/12/92

13-7.5 Photographic Surveillance

The objective of surveillance photography is generally to obtain recognizable, identification images of individuals or items, or to record events as they occur, or over a long period of time. Conventional still photography should be used in all instances where recognition or identifiable detail is required. Still video is not to be used unless the immediate electronic transmission of the image is of prime importance and quality is secondary. Motion pictures (if detail is of high importance) or closed circuit TV (CCTV) should be used if the prime objective is to record the action taking place or an event that occurs over a long period of time. When both identification and action are required still photography and CCTV should be used simultaneously. CCTV images and motion picture images cannot be substituted for conventional still photography since it is not possible to make high-quality, hard-copy enlargements from these processes. (See Part II, 9-1(5) of this manual concerning the use of photographic technicians for photographic surveillances.) The SPU will design and install unmanned automatic still-camera surveillance systems where the need arises. These utilize a variety of trip devices, [redacted] and other devices to activate the camera when subjects are present. b2 b7E

EFFECTIVE: 02/12/92

13-7.5.1 Long Range Photography With Telephoto Equipment

The lens used depends upon the distance from the subject to the cover available.

(1) Telephoto lenses are available for still photography at distances up to 1500':

Distance Range	Rec. Lens Focal Length (2mm's per foot)
50' - 150'	up to 300mm.
150' - 300'	300mm to 600mm.
300' - 600'	600mm to 1200mm.
600' - 1500'	1200mm to 3000mm.

(2) Fast telephoto lenses are available for photography in situations in which the intensity of the light available is low. These are limited to up to 400mm.

(3) Deleted

EFFECTIVE: 02/12/92

13-7.5.2 Night Surveillance Equipment

(1) Night photographic surveillance problems may be solved with the utilization of light intensification equipment provided to each Special Operations Group (SOG) and maintained by the Special Photographic Unit, Laboratory Division. Night viewing devices are not designed for photography.

(2) Ultrahigh-speed films for surveillance photography in low-light-level situations, such as a dimly lighted street or entryway at night, are available. The use of such films with available fast lenses extends surveillance photography to many nighttime and other situations where the available light is extremely low. Film, equipment, and assistance for these applications can be obtained from the Laboratory.

(3) Infrared photography can be used to obtain photographs in total darkness. High-speed infrared film, infrared flashbulbs, light sources and infrared filters for light sources are available for such installations.

(4) Most offices are equipped with a [redacted] Personnel in those offices have been appropriately trained. Only those personnel are to utilize the [redacted] units. b2/b7E

EFFECTIVE: 02/12/92

13-7.5.3 Photography With Concealed Cameras

(1) Concealed cameras are motor-driven still cameras (35 mm). Concealments available include: [redacted] Custom units can be made to solve specific problems. Special equipment and concealments are available for FCI cases. Contact the Special Photographic Unit on the secure phone system.

(2) The concealments can be activated by individuals at the scene or by remote control for unmanned surveillances or camera traps. Such equipment can be operated by direct wire connection, timers, tripping devices or radio control.

(3) Camera equipment is available which is readily adaptable for use from cover in mobile equipment-automobiles, panel trucks, etc. Reflex (through the lens) focusing cameras are particularly useful for this application.

EFFECTIVE: 07/25/97

13-7.5.4 Aerial Photography

Aerial photography can be used for planning, intelligence gathering and court purposes. The Mamiya 645 provided to the field is the recommended camera for aerial photography from fixed wing aircraft or helicopters. [redacted] Contact the Special Photographic Unit, Extension [redacted] for information and scheduling.

EFFECTIVE: 05/26/89

13-7.5.5 Emergency Operational Support

A specialized photographic Emergency Response Team will provide immediate on-scene photographic intelligence during a crisis situation or any case requiring immediate results. Equipment, including a portable darkroom system, is prepackaged for immediate deployment to anywhere in the world. This whole-team concept and equipment is designed to provide photographic results without any outside source of personnel or other resources such as electricity. Contact the Special Photographic Unit, Extension [redacted] for information and scheduling. b2

EFFECTIVE: 05/26/89

13-7.5.6 Deleted

EFFECTIVE: 11/20/90

13-7.6 Photographic Examinations (See MIOG, Part II, 10-3, 13-7, and 13-7.6.1.) (Formerly 13-18)

(1) Forensic examinations of photographic evidence are available from the Special Photographic Unit. Photographic evidence may include:

(a) Film negatives

(b) Slides

(c) Instant prints/slides

(d) Photographs

(e) Cameras

(f) Video tape

(g) Unexposed film

(h) Undeveloped film

(i) Photographic accessories

(j) Pornography

(k) FCI Tradecraft

(l) Motion Pictures

(m) Image processing picture files

(n) Digital camera image files

(2) Also, any other evidence may be submitted for studio photographic examinations using, for example, infrared, and ultraviolet techniques. This nonphotographic evidence includes, but is not limited to:

(a) Documents

(b) Clothing

(c) Any obliterated writing or printing

(d) Defaced or altered surfaces

(e) Items with hollows or cavities

(3) The following are examinations of photographic evidence available from the Special Photographic Unit:

(a) Bank Robbery Film Examinations - Bank Robbery film (or video tape) is examined and compared to other submitted evidence (guns, clothing, mug shots, bags, hats, etc.). This examination may help establish a subject's presence at a crime scene by identifying clothing, weapons, or any other items linked to the subject. These examinations include surveillance video tapes that are increasingly popular for bank surveillance. Also subject height determinations may be made from these images (see Photogrammetry Examinations below at (3) (e)).

Note: It is important to remember that the negatives or the original video tape are the best evidence and should always be submitted when

an examination is requested. Before submitting, any prints needed for continuing the investigation should be made from the negatives, and at least one copy of the video tape should be retained in the field division.

In conjunction with the |Firearms/Toolmarks| Unit, bullet trajectories may be calculated through photogrammetric techniques.

(b) Photographic Comparisons - Photographic evidence is examined and compared to other evidence or photographs of evidence. Various photographs of a subject taken at different times and places may be compared to determine if the photographs are indeed of the same subject. The subject may be a suspect individual, vehicle, weapon, or virtually anything that may be photographed. Also, any items within a photograph may be compared, for example, a pendant around an individual's neck, rings, or tattoos.

(c) Time and Location Examinations - Photographic evidence may be examined to determine the location, time, and date that an image was taken.

(d) Authenticity Examinations - Photographic evidence may be examined to determine if the image is the result of a composite, a copy, or of some other alteration method to cause a misrepresentation. Evidence may also be examined to see if it is a copy of copyrighted or pornographic material.

(e) Photogrammetry - Actual dimensions may be derived from photographic images through the use of various geometric formulae. The most common is determining the height of bank robbery suspects. As an adjunct to this type of examination, plan drawings, or views may be generated. These are "overhead" representations of a scene depicted in a photographic image. These may be used for mapping a major crime scene from photographs taken of the scene. This may include onsite surveys by SPU personnel coupled with photographs taken by specially calibrated cameras.

(f) Infrared (IR), Ultraviolet (UV), and X-Ray Examinations - Obliterated writing or other marks may be made evident by examining evidence with IR, UV, and X-ray photography. These examinations are based on the principle that various substances may reflect, fluoresce, or luminesce at different rates. Examples include overwritten documents, documents with altered writing, objects with defaced serial numbers, or other identifying marks, or marks that may be invisible against a similarly colored background.

(g) FCI Tradecraft - The Special Photographic Unit examines and maintains a collection of foreign counterintelligence tradecraft. This is not necessarily limited to FCI cases. Any cases of items designed for concealed cameras, money, drugs, etc., may be examined for evidentiary purposes.

(h) Source and Age Examinations - In some cases photographic products (including film and prints) may be dated and source established by an examination of their manufactured characteristics. This may be helpful in establishing the time frame that a photograph may have been taken.

(i) Camera Examinations - Cameras may be examined to determine if they exposed a particular image. Also they may be examined to determine if they have been altered (including serial numbers), and for the purposes they may have been altered. These examinations include any photographic equipment or supplies that may have been seized as evidence.

(j) Image Processing - Photographic images that have been degraded as the result of being out-of-focus, blurred, under or overexposed, or any other problems contributing to a poor image may be corrected through the use of computer digital image processing.

(k) Scene Reconstruction - Photography may be used to "reconstruct" what may have been visible to a subject or witness under a given set of circumstances. This may also be used to establish the veracity of photographs introduced in court purporting to depict lighting conditions at a certain time and place.

(l) Analysis of Time and Motion - The speed of objects may be calculated in motion pictures, video tapes, or other images from sequential frame cameras.

(m) Photographic Consultation - The SPU is available to provide assistance on how to best preserve and transport photographic evidence. In cases where exposed or unknown film or other photographic materials are seized as evidence, the SPU may be able to determine whether or not the items have been exposed, and if so how they should be developed.

EFFECTIVE: 07/25/97

|13-7.6.1| Video Tape Enhancement/Examination and Support
|(See also MIOG, Part II, 13-7.1.1 and 13-7.6.1.)
(Formerly 13-29, 13-29.1, 13-29.2 and 13-29.3)|

The|Special Photographic Unit (SPU)|of the Laboratory (Room|3449, Extension [redacted] is responsible for the processing of video imagery where the image requires enhancement and the preparation of a photographic print. This video imagery may originate from time-lapse or full-motion video tapes of any format or from still video disks. |SPU|can provide photographic prints and/or video tapes of these enhanced images. |Requests|for comparisons of video imagery to known photographic prints or to other submitted evidence (guns, articles of clothing, bags, hats, etc.) should be forwarded to the|SPU.|

|SPU|can also provide the following forensic video support services:

(1) Reconstruction of physically damaged video tapes. This includes tapes that have been damaged due to mechanical malfunction of a video tape machine or video tapes that have been deliberately damaged.

(2) |Slow-motion|or frame-by-frame playback of video tapes. This is often beneficial when actions|or|activities occur quickly and are not readily apparent to the viewer. This process is also valuable for recovering partially recorded video frames that also are not readily apparent to the viewer.

(3) Conversion of foreign video standards. There are three primary worldwide video standards (NTSC, PAL, and SECAM). These standards are not directly compatible. Tapes received from or destined to foreign countries may require standards conversion. In addition to providing this conversion process, the|SPU|can provide consultation and technical assistance in determining proper video standards.

(4) Production of demonstrative evidence video tapes for courtroom presentation. This is to include video tapes produced for crime scene documentation or reenactment and the preparation of video tapes containing English-translated subtitles of surveillance video tapes where the recorded conversation is in a foreign language.

(5) Where appropriate,|SPU|can edit and/or compile video segments for briefings or as investigative or demonstrative aids.

|(6)| Submission to the|SPU|should be by electronic communication under the case caption. Video frames or sequences that require enhancement or processing should be identified by using the time/date recorded on the video tapes when available. Should there be no time/date or an incorrect time/date recorded on the video tape, a complete description of the subject or activities in question should be provided and the tape stopped at the beginning of the pertinent segment. Also, if available, the manufacturer and model of the recording video tape machine should be included.

|(7)| It should be noted that video-based imagery does not contain the resolution of film and should not be used as a replacement for film, where image detail for identification purposes is required.

|(8)| Attempts should be made to minimize the number of times a video tape is played or reviewed. Continued or repeated use of video tapes, especially time-lapse video tapes, can cause physical degradation of the tape and can severely limit enhancement efforts. Original video tape should always be submitted.

EFFECTIVE: 07/25/97

13-8 SEROLOGY EXAMINATIONS

(1) Forensic serology consists of the identification and characterization of blood and other body fluids in the crime laboratory. Evidence is received mainly in connection with violent crimes, such as murder, rape, robbery, assault-and-battery. Evidence in burglary, hit-and-run cases and game violation cases is also frequently received.

(2) In cases where it has been determined that a person is infected with, or is suspected of being infected with either acquired immune deficiency syndrome (AIDS), tuberculosis or hepatitis|(A, B, or C), the Laboratory MUST be notified of the condition both in the incoming communication and the evidence labeled accordingly.|

(3) If an investigator is not familiar with or is unsure about the submission of any particular evidence to the Laboratory, he/she should call to get advice.

EFFECTIVE: 11/20/90

13-8.1 Blood

EFFECTIVE: 11/20/90

13-8.1.1 Blood Examinations Aid Investigations

(1) In location of the crime scene - Identification of human blood can pinpoint the area for a crime search.

(2) In determining the possible commission of a crime - Occasionally, the identification of human blood on a highway, sidewalk, porch, or in a car is the first indication of a crime's occurrence.

(3) In identifying the weapon used - The DNA typing of human blood identified on a club, knife or hammer can be of considerable investigative and prosecutive value.

(4) In proving or disproving a suspect's alibi - The identification of human blood on an item belonging to a suspect who claims an animal as the blood source. The identification of animal blood can substantiate the claim of an innocent person.

(5) In eliminating suspects - The determination by DNA typing tests that human blood on suspect items is different from the victim's blood can facilitate the release of a suspect or help to substantiate a suspect's claim of injury.

EFFECTIVE: 05/31/94

13-8.1.2 Information Determinable by Blood Tests

(1) Identification of stains as blood - Chemical analyses are necessary to positively identify blood. The appearance of blood can vary greatly depending on the age of stains and on other factors.

(2) Determination whether blood is of human or animal origin - If animal, determination of specific animal family.

(3) DNA analysis of blood.

(a) Deleted

(b) Deleted

(c) Deleted

EFFECTIVE: 05/31/94

13-8.1.3 Deleted

EFFECTIVE: 11/21/97

13-8.1.4 Collection, Identification and Wrapping of Bloodstained Evidence (See MIOG, Part II, 13-6.7 (9), (10), (11), (12), (13).)

(1) Agents conducting crime scenes and handling any body fluids should wear latex gloves inasmuch as the status of infectious microorganisms (e.g., AIDS, Hepatitis B) that may be contained in body fluids will not be known. If aerosol droplets or airborne particles are produced during the crime scene search, surgical masks and eye protection are recommended. Particular care should also be taken when handling or searching for secreted sharp instruments such as knives and hypodermic needles. Agents should use mirrors and flashlights to look for secreted hypodermic needles and syringes prior to inserting the hand in areas they cannot clearly see. In any instance where an injury occurs and a body fluid comes in contact with a wound, however

minor, medical attention should be sought immediately. (See MIOG, Part II, 13-8.4 (5).)

(2) Deleted

(3) Garments and fabrics:

(a) Investigator's identifying marks should be put directly on the fabric in ink, away from stained areas if possible.

(b) Each item should be wrapped separately.

(c) Stains which are moist must be dried out thoroughly before wrapping or putrefaction of blood will occur.

(d) Drying should be done by exposure to the atmosphere in a secure, well-ventilated room and not be exposed to direct sunlight or heat.

(4) Blood on surfaces such as walls or floors - If possible, remove stained portion of wall or floor. If this is not possible, stains can be swabbed from surface using swabs slightly moistened with water. Air dry swabs and place in paper envelopes. DO NOT PLACE IN PLASTIC.

(5) Blood on automobiles involved in "hit and run" cases where a paint examination will also be requested should not be scraped off. It should be chipped off along with appropriate paint specimens with a sharp object such as a chisel or screwdriver and shipped to the Laboratory in one piece.

(6) Blood on pieces of glass:

(a) Pieces should be submitted if stains are too thin for removal of adequate amount by scraping.

(b) Specimens should be insulated in package to avoid breakage in transit.

(c) Mark item itself or on container holding pieces or scrapings.

(d) In circumstances where objects contain handprints or friction ridge detail present in blood, consideration should be given to removing sections of walls, floors, glass, etc., for submission to the Latent Fingerprint Section for examination and

chemical enhancement of these impressions for identification purposes.

(7) Blood in dirt or sand:

(a) If blood is encrusted on surface, the crusts should be removed and enclosed in separate pillboxes to avoid further contamination with dirt and sand during shipment. Remainder of specimen may be submitted in circular ice cream-type container.

(b) Mark containers appropriately.

(8) Blood on large metallic objects, such as car bumpers or pipes:

(a) If shipped in wooden box, the use of wooden cleats or wires inside box is suggested to hold specimen securely and avoid frictional removal of stains during shipment.

(b) Mark items themselves.

(9) Liquid blood samples: (See MIOG, Part II, 13-6.7 (9).)

(a) Samples from victim and suspect should always be submitted.

(b) No refrigerants and/or dry ice should be added to the sample.

(c) Blood samples (at least five cubic centimeters) from the victim and suspect should be collected in two vacutainer tubes, one containing EDTA (purple top) for DNA analysis and the other with no preservative (red top) for serological analysis. Package to protect from breakage and contain a spill. The internal packaging should include the "Biohazard" labels. (See also 13-8.4 (5).)

(d) No other anticoagulant or preservative is recommended. Package to protect from breakage, and submit at least 5 cubic centimeters of blood.

(e) Sample should be shipped refrigerated without delay to the Laboratory (air freight or similar rapid transit method).

(f) Stopper should be sealed with tape to avoid loosening due to air pressure differences in plane and possible loss of blood.

(g) While in storage, keep under refrigeration but DO NOT FREEZE.

EFFECTIVE: 07/25/97

13-8.1.5 Blood Evidence Transmittal Letter

The letter of request should contain the following information:

(1) A brief statement of the facts surrounding the case.

(2) Any claims made by the suspect as to the source of blood on evidence items.

(3) Deleted

(4) Information concerning weather conditions to which the evidence might have been exposed, contaminating substances, etc.

(5) Information concerning disease state(s) of subject(s) and/or victim(s) (examples: AIDS, Tuberculosis, Venereal Disease, Hepatitis, etc.)

EFFECTIVE: 04/01/96

13-8.2 Other Significant Body Fluids

EFFECTIVE: 06/10/88

13-8.2.1 Body Fluid Examinations Aid Investigations

(1) Seminal Stains:

(a) Their identification by chemical and microscopic means on vaginal smears or swabs or on a rape victim's clothing may be of value in corroborating the claims of victim. Seminal fluid analysis will be performed by DNA analysis.

(b) Deleted

(c) Deleted

(2) Saliva Stains: In FBI cases, |suspected| saliva stains will be examined by DNA analysis. (See MIOG, Part II, 13-8.4 (3).)

(a) Deleted

(b) Deleted

(3) Urine Stains - May be qualitatively identified based on chemical testing; however, absolute identification may not be possible. DNA testing on urine stains may be attempted.

EFFECTIVE: 07/25/97

13-8.2.2 |Deleted|

EFFECTIVE: 09/24/93

| 13-8.2.3 Limitations on Seminal Stain and Saliva Stain|DNA Typing|

(1) Sometimes semen is mixed with urine or vaginal secretion of the victim and interpretation of DNA typing tests is more difficult.

(2) Saliva on cigarette stubs and on cigar butts may be DNA typable. Ash trays SHOULD NOT be simply emptied into a container. Individual butts should be separately packaged and care taken to avoid ash and debris contamination of any saliva present.

(3) Deleted

| (4) ACCURATE EVALUATION OF|DNA TYPING|RESULTS ON QUESTIONED SEMEN AND SALIVA STAINS REQUIRES KNOWN LIQUID|OR DRIED|BLOOD SAMPLES FROM THE VICTIM AND SUSPECT.

EFFECTIVE: 04/01/96

13-8.2.4 Collection, Identification and Packaging of Evidence Stained with Body Fluids |(See MIOG, Part II, 13-8.2.5.)|

(1) Semen Samples - Clothing or other material bearing suspected semen stains should be marked with dates and initials, DRIED IF MOIST, and each item packaged|separately in paper, NOT PLASTIC.|

(2) Saliva Samples: (See MIOG, Part II, 13-8.2.5.)

(a) Questioned samples should be handled as above for semen.

(b) For Dried Saliva Samples: (See MIOG, Part II, 13-6.7 (60).)

1. Saliva swabs (also called buccal swabs) can be collected using sterile cotton-tipped "Q tip" applicators. Generally these applicators can be purchased in individually wrapped sterile packets which contain a single sterile swab--generally a five-inch-long wooden stick with cotton tip.

2. The swab should be put in the mouth of the individual and placed firmly up against the inside of the cheek and

rotated. Generally two swabs, one from each cheek are collected. The swabs should be allowed to COMPLETELY AIR DRY, then packed and sealed in clean envelopes, paper packets, or in their original packet and conveyed to the Laboratory. After drying is complete, label appropriate envelope with type of sample, collector's initials, date and place of collection.

(c) NEVER submit liquid saliva samples.

(3) For Dried Blood Samples: From a fingerprick, or whole blood sample collected in a purple top (EDTA preservative) tube, a bloodstain is made on sterile, clean cotton cloth (usually washed cotton sheets). Two stains are usually prepared. The stains should be approximately one to two inches in diameter (about the size of a United States 50-cent piece). The stain should be allowed to COMPLETELY AIR DRY. The stain can be placed in a paper packet or envelope for shipping. The stains can then be stored in refrigerator/freezer conditions for a long period of time. (See MIOG, Part II, 13-6.7 (12).)

EFFECTIVE: 04/07/97

13-8.2.5 The Rape Case - Special Evidence Considerations (See MIOG, Part II, 10-3, 13-6.7 (67) & (68).)

(1) Because of the possibilities of serological evidence in rape being composed of possible mixtures of body fluids, evidence collection and preservation in a rape case warrant special consideration. The forensic serologist can often provide the investigator with valuable information beyond the statement that "semen is present" on an item if the necessary samples are obtained and properly preserved prior to submission to the Laboratory. The situation outlined below represents the ideal case; however, in many instances, much of the evidence listed may be obtained without excessive difficulty.

(2) It should be realized, however, that the majority of this evidence should be collected as soon as possible (within hours) of the crime.

(3) The following evidence should be obtained FROM THE VICTIM in a rape case:

|(a)| Two liquid blood samples at least 5 cc in volume. One red-topped tube for conventional serology analysis and one purple-topped tube for possible DNA analysis. These samples will enable the laboratory examiner to determine the victim's DNA characteristics for comparison with the evidence and the suspect's samples. (See MIOG, Part II, 13-6.7 (9) & 13-8.4 (5).)

|(b)| Four vaginal swabs (dry before packaging). These would be used for|genetic|grouping|determination.|

|(c)| Two (2) vaginal smear slides for use as a means of showing that spermatozoa (and semen) are, in fact, present. Slides to be sent to the FBI Laboratory should not be fixed or|stained and all made from the vaginal swabs from step (b).|

(d) Two clean swabs from the same package as the above vaginal swabs. These would be used as unstained control swabs to show that any result obtained from stained swabs is or is not due to the cotton of the swabs themselves.

(e) Deleted

(f) In addition to the above, items of clothing, bed clothes, etc., would logically be obtained from the scene and victim at this time or as soon after as possible.

(g) Appropriate hair samples should be collected from the victim (known head and pubic hairs, combed head and pubic hairs).

(4) Evidence collected from the SUSPECT(s) would logically include clothing, a liquid blood sample and a saliva sample, taken as described in 13-8.2.4 above, and hair samples.

EFFECTIVE: 07/25/97

13-8.3 DNA Analysis|Unit I|

The DNA Analysis|Units (DNA I and II) analyze| deoxyribonucleic acid (DNA)|from biological tissues|recovered from physical evidence in violent crimes. Evidence examined by the|units| consists of known liquid and dried blood samples,|hairs, bones, teeth,|portions of rape kit swabs and extracts, and body fluid stained cuttings from homicide, sexual assault and serious aggravated assault cases. These items of evidence are normally examined first to determine the probative value of DNA analysis.

EFFECTIVE: 11/21/97

13-8.4 DNA Evidence Examination Policy

In general, this policy states that the FBI Laboratory will accept evidence for DNA analysis from current, violent personal crimes where appropriate standards for comparison are available. The policy is specified as follows:

(1) BUREAU CASES

(a) Physical evidence submitted for DNA analysis in connection with FBI investigations will be examined where appropriate.

(b) A known blood sample from the victim and suspect for comparison purposes is required. No DNA analysis will be conducted until known blood samples from both the suspect and the victim have been received. Preliminary examinations, such as the identification of blood or semen|or hair comparison,|may be conducted without a known blood sample from the suspect, where appropriate.

(2) NON-BUREAU CASES

(a) DNA analysis on state and local cases will be limited to homicide, sexual assault and serious aggravated assault cases in which a suspect has been identified. In certain cases, evidence will be accepted by the FBI Laboratory for DNA analysis even though a suspect has not been identified. These exceptions include serial homicide/rape cases and sexual assaults on young children.

(b) A known blood sample from the victim and suspect

for comparison purposes is required. No DNA analysis will be conducted until known blood samples from both the suspect and the victim have been received in the DNA Analysis|Units.|

(c) Requests for DNA analysis on previously adjudicated cases should not be submitted to the FBI Laboratory but should be referred by the investigative agency to one of the private DNA testing laboratories. Names and addresses of these laboratories can be provided on request.

(3) PCR TESTING (See MIOG, Part II, 13-8.2.1 (2).)

(a) The DNA Analysis|Units|now|have|on-line a technique called PCR (POLYMERASE CHAIN REACTION) testing. This technology allows the Laboratory to obtain a DNA type from|other| biological materials. Because of limited resources being devoted to this technology, strict case acceptance policy has been established by the Laboratory Division.

(b) Evidence for PCR analysis will be accepted only in FBI cases when a known blood sample from the suspect has been obtained and submitted along with the evidence. The Laboratory will not accept state or local cases or domestic police cooperation cases for PCR analysis unless previously authorized by the Assistant Director, Laboratory Division.

(4) REEXAMINATION POLICY

(a) It is the policy of the FBI Laboratory that no examination will be conducted on evidence which has been previously examined by another expert. However, the Laboratory will accept evidence samples for DNA analysis even though another crime laboratory may have conducted traditional tests on the evidence items if that crime laboratory does not have the capability to perform the DNA tests and if the submitted samples are determined to be of a quality and condition conducive to DNA analysis. The local forensic laboratory should be encouraged to contact the DNA Analysis|Units|of the FBI Laboratory prior to submission of this kind of evidence.

(b) Paternity or parentage testing involving a paternity index is not done by the DNA Analysis|Units,|even in criminal cases. The Laboratory does not currently perform these types of tests. Private paternity testing laboratories should be contacted for these services.

(c) In cases where conventional serology and no DNA

analysis is requested because of judicial rulings, trial delays, etc., it is the policy of the Laboratory that no analysis will be conducted.

(5) Evidence submitted for DNA analysis can be collected, preserved and transmitted to the Laboratory according to the guidelines set forth in Section 13-8.1.4 ("Collection, Identification and Wrapping of Bloodstained Evidence"). Bloodstained evidence should be completely air-dried before packaging and submitted promptly to the Laboratory. Two liquid blood samples, at least 5cc in volume, should be collected from both the suspect and victim; one red-top tube for conventional serology analysis (containing no preservatives) and one purple-top tube (containing EDTA) for DNA analysis. These blood samples should be submitted to the Laboratory without delay. In the event there will be a delay in submission of the dried stain evidence to the Laboratory, it should be kept frozen. (See MIOG, Part II, 13-6.7 (9), 13-8.1.4(9)(c) & 13-8.2.5 (3).)

EFFECTIVE: 11/21/97

13-9 MICROSCOPIC EXAMINATIONS

EFFECTIVE: 02/12/92

13-9.1 Trace Evidence

Trace evidence (hairs and fibers) examinations are conducted by the Trace Evidence Unit.

EFFECTIVE: 07/25/97

13-9.1.1 |Trace Evidence|Examinations Aid the Investigation

These examinations are valuable in that they assist in:

(1) Placing the suspect at the scene of the crime

(a) Transfer of hairs or fibers between the victim's and suspect's clothing in crimes of violence such as rape, assault and murder.

(b) Hairs or fibers from a suspect left at the scene of crimes such as burglaries, armed robberies and car thefts.

(2) Identifying the scene of the crime - Hairs or fibers left at the scene of crimes such as burglaries and armed robberies.

(3) Identifying the weapon or the instrument of a crime - Hairs or fibers on wrenches, knives or clubs.

(4) Identifying hit-and-run vehicles - Hairs or fibers adhering to suspect automobile.

EFFECTIVE: 07/25/97

13-9.1.2 Information Determined from an Examination of a Hair

Whether animal or human

(1) If animal, the species and/or family from which it originated (dog, cat, deer, beef, etc.)

(2) If human, the race, body area, method of removal from the body, damage, and alteration (bleaching or dyeing) and suitability for comparison with known hair samples may be determined.

(3) A comparison with known hair samples will result in a possible association, an elimination or a no conclusion.

|(4) If a microscopic association is made between a questioned and known hair sample, DNA analysis may be performed on the questioned hair and compared to a known blood/saliva sample.|

EFFECTIVE: 11/21/97

13-9.1.3 Information Determined From Fiber Examinations

(1) Identification of the type of fiber

(a) Animal (wool)

(b) Vegetable (cotton)

(c) Synthetic (man-made)

(d) Mineral (glass)

(2) Determination as to whether or not questioned fibers are the same type and/or color and match in microscopic characteristics as those fibers comprising a suspect garment.

EFFECTIVE: 02/12/92

13-9.1.4 Limitations of Hair Examinations

(1) Not absolute identification; however, is good circumstantial evidence.

(2) Age cannot be determined.

(3) Although racial|characteristics, hair color and length|may be of value for investigative lead purposes,|microscopic characteristics exhibited by hairs|are not. Furthermore, significant hair comparisons can only be conducted with known samples of hair, best obtained by collecting both pluckings and combings from an individual.

EFFECTIVE: 04/01/96

13-9.2 Fabric

A positive identification can be made if a questioned torn piece of fabric can be fitted to the known torn material.

EFFECTIVE: 02/12/92

13-9.3 Deleted

EFFECTIVE: 02/12/92

13-9.4 Cordage/Rope

A piece of rope left at the scene of the crime may be compared with similar suspect rope.

(1) Composition, construction, color and diameter can be determined.

(2) Manufacturer can sometimes be determined, if tracer present.

EFFECTIVE: 02/12/92

13-9.5 Botanical

Botanical examinations are conducted where plant material from a known source is compared with plant material from a questioned locale.

EFFECTIVE: 02/12/92

13-9.6 Anthropological

(1) Frequent identifications are made through comparisons of teeth with dental records and X-rays with corresponding bone structures.

(2) Examinations may be made to determine if skeletal remains are animal or human. If human, the race, sex, approximate height and stature and approximate age at death may be determined.

|(3) DNA analysis may also be performed on the skeletal remains and compared to known blood/saliva samples in an attempt to assist in the identification process.|

EFFECTIVE: 11/21/97

13-9.7 Wood

The presence of a suspect at the crime scene can often be established from a comparison of wood from his/her clothing, vehicle or possession with wood from the crime scene.

EFFECTIVE: 05/26/89

13-9.7.1 Types of Wood Examinations

(1) Specific source

(a) Side or end matching.

(b) Fracture matching.

(2) Species identification

EFFECTIVE: 05/26/89

| 13-9.8 |Deleted|

EFFECTIVE: 05/26/89

13-9.9 Deleted

EFFECTIVE: 05/26/89

13-9.10 Miscellaneous Examinations

These examinations include the following:

(1) Fabric impressions

(2) Glove prints

(3) Feather Identification

EFFECTIVE: 05/26/89

13-10 CHEMICAL EXAMINATIONS

EFFECTIVE: 12/16/88

13-10.1 Toxicological Examinations

EFFECTIVE: 12/16/88

13-10.1.1 Purpose

Assists the medical examiner in determining the cause of death in suspected cases of poisoning.

EFFECTIVE: 12/16/88

13-10.1.2 Types of Poisons

(1) Volatiles, such as carbon monoxide, alcohols, cyanide and solvents.

(2) Heavy metals, such as arsenic, mercury, lead and antimony.

(3) |Nonvolatile organic poisons, such as drugs of abuse, pharmaceuticals and pesticides.|

(4) Miscellaneous, such as inorganic compounds, |plant materials, caustic substances, |and insects.

EFFECTIVE: 12/16/88

13-10.1.3 Background Information Useful to Toxicological Examiner

(1) Copy of autopsy report.

(2) Symptoms exhibited prior to death.

(3) List of drugs administered to victim.

(4) List of toxic chemicals normally encountered by victim in employment or at home.

EFFECTIVE: 12/16/88

13-10.1.4 Desirable Specimens for Complete Laboratory Examination

(1) Brain (75 grams)

(2) Liver (75 grams)

(3) Kidney (75 grams)

(4) Blood (20 cc) (add preservative and identify)

(5) Urine (all)

(6) Gastric contents (all)

(7) Vitreous Humor

(8) Any suspect food, drugs or chemicals

EFFECTIVE: 12/16/88

13-10.1.5 Preparation for Shipment to Laboratory

(1) Place each organ and fluid in a separate sealed container.

(2) Have pathologist label and initial each specimen.

(3) Place container in insulated box with dry ice|or freezer block|(do not allow|coolant|to touch glass jars).

(4) Mark package "Keep Cool" and transmit by|overnight express.|

EFFECTIVE: 12/16/88

13-10.2 Pharmaceutical and Drug Examinations

EFFECTIVE: 12/16/88

13-10.2.1 Information Helpful to Laboratory Examiner

(1) Interview of suspect regarding source and use.

(2) Prescription data.

(3) If possible, submit sample in original container.

EFFECTIVE: 12/16/88

13-10.2.2 Collection and Preservation

(1) Each item packaged separately and securely.

(2) Each item and/or its container clearly identified by initials and item number.

EFFECTIVE: 12/16/88

13-10.2.3 Information Determined from the Examinations

(1) Weight of pharmaceuticals.

(2) Quantitation of active ingredients.

(3) Whether a controlled substance or prescription item.

EFFECTIVE: 12/16/88

13-10.3 Arson Examinations

EFFECTIVE: 12/16/88

13-10.3.1 Reasons for Arson

(1) Insurance|fraud.|

(2) Revenge.

(3) |Destruction of a crime scene.|

(4) Pyromania.

(5) Civil disobedience.

EFFECTIVE: 12/16/88

13-10.3.2 |Arson Evidence|

(1) |Location

(a) Area of intense burning.

(b) Multiple areas of origin.

(c) "V" pattern areas.|

(2) Arson|time delay|devices

(a) Candle plants

(b) Cigarette in matchbook

(c) Molotov cocktail

(d) |Fused chemicals|

|(e) Electronic devices|

(3) Fire trails

(a) Cloth ropes

(b) Burn trails on carpeting

(c) Deep charring trails in hardwood

(4) Removal of property - No typical remains of household goods in debris

EFFECTIVE: 12/16/88

13-10.3.3 Types of Evidence

Any sample from the point or area of origin, especially specimens that are absorbent in nature or of a type that will retain a flammable liquid, such as:

(1) Padded furniture

(2) Carpets

(3) Plasterboard

(4) Soil

(5) Clothing

(6) Molotov cocktails

EFFECTIVE: 12/16/88

13-10.3.4 Preservation of Evidence

Most readily flammable liquids are volatile and are easily lost through evaporation.

(1) Use air tight containers

(a) Clean metal cans (preferable)

(b) Kapak bags

(c) Clean glass jars

(2) Properly identify specimen - Initial specimen or container

EFFECTIVE: 12/16/88

13-10.3.5 Interpretation of Laboratory Results

(1) Gas Chromatography examination of distillates recovered from suspected arson debris usually aids in classifying the product with regard to distillation range such as gasoline, fuel oil and paint solvents.

(2) Limitations: Generally unable to identify specific brand of gasoline or fuel oil due to weathering, common intermixing of commercial brands and lack of distinguishing characteristics between brands.

EFFECTIVE: 12/16/88

13-10.4 General Chemical Analysis Examinations

EFFECTIVE: 12/16/88

13-10.4.1 Definition

Qualitative and quantitative analysis of miscellaneous chemical evidence.

EFFECTIVE: 12/16/88

13-10.4.2 Examples of Sources of Materials

(1) [Deleted]

(2) Fraud cases: Verification or disproving specifications in government purchases, product verification in "pyramiding" operations, con games, replacement of valuable product constituents with worthless constituents, etc.

(a) Desired information - Claims made for product by manufacturers or distributors, alleged constituents, complaints by users, etc.

(b) Limitations - Products cannot be tested mechanically or to determine pros or cons of use. Analysis is limited

to determination of constituents and literature search in reference thereto. Consideration of use of outside laboratories can be given to other necessary testing.

(3) Chemical destruction cases: Destruction of paint surfaces, lawns, and other valuables with harsh chemicals.

(4) Assault cases: Use of harsh chemicals on assault victims, lubricants used in rape and sodomy cases, miscellaneous unknown chemicals found at assault scene, etc.

(5) Sabotage: Harsh chemicals and other adulterants in fuel tanks and oil pans, gears, etc., of drive trains; sea water contamination aboard ships.

(6) Ink Analysis

(a) Scope - Comparison of the formulations of questioned and/or known ink specimens including typewriter ribbons and stamp pad inks.

(b) Limitations - When ink formulations are the same, it is not possible to determine whether or not they originated from the same source to the exclusion of other inks having similar formulations.

(c) Standard ink reference files necessary for possible association of a questioned ink with a manufacturer are available to the Laboratory.

(d) Determination of whether or not a document was written after the date shown thereon can only be made if a date taggant is in the ink. Only a limited number of companies utilize the taggant.

(7) Explosives and explosives residue analysis

(a) Post-explosion evidence

1. Scope - Examine evidence after an explosion for the presence of residues left behind from an explosive.

2. Types of Evidence - Metal, glass, plastics, rubber close to the seat of the explosion. Soil from the crater should be removed. Attempt to collect control samples from the surrounding area.

3. Take necessary precautions to avoid contamination.

4. Containers for evidence

a. clean metal paint cans

b. plastic evidence bags placed and sealed in Kapak bags

c. clean glass jars

(b) Preexplosion - raw explosive samples

1. Containers

a. metal cans or glass jars

b. be aware of shipping requirements for explosives.

2. Limitations - In some cases the manufacturer of a material can be obtained. Comparison with samples for batch comparisons is possible.

(8) Paint and plastics analysis

(a) Paints

1. Scope - Comparison of paint samples from known source to a paint sample removed from a specimen.

2. Limitations - When paint samples match, it can only be said that the specimen may have come from the known source or one just like it. Only in rare cases can a positive match, to the exclusion of all others, be made.

3. National Automotive Paint File (NAPF) is housed in the Laboratory.

(b) Plastics

1. Scope - Analysis of plastic or polymeric materials. Plastic fragments from hit and run accidents can be reconstructed into its original shape.

(9) Tape Analysis

(a) Scope - Tapes come in a variety of forms such as masking, electrical, and duct tape. These materials have been used to bind homicide victims, cover drug packs, and components of improvised explosive devices. End matches are the most powerful results.

(10) Miscellaneous chemical examinations such as:

(a) Chemical agents on bank robbery packets

(b) Dyes encountered in bank dummy packets or security devices can be compared with known standards in the Laboratory

(c) Constituent determination in patent cases

(d) Flash and water soluble paper in gambling and espionage cases

(e) Verification of stolen chemicals in ITSP and TFIS cases, and

(f) Harsh chemicals or sugars in DAMV cases.

(g) Adulterants in Tampering With Consumer Product cases.

(h) Trace drugs in money, clothing, suitcases, and other containers

(i) Smokeless powder comparisons

(j) Food analyses

(k) Cosmetic examinations

(l) Button examinations

(m) Lubricants - such as Vaseline in rape cases.

EFFECTIVE: 11/21/97

13-11 MINERALOGY EXAMINATIONS

(1) Mineralogy is part of the Trace Evidence Unit.

(2) Mineralogy examinations are conducted on those materials which are mostly inorganic, crystalline or mineral in character, and include glass, building materials, soil, debris, industrial dusts, safe insulations, minerals, abrasives, and gems. Comparisons can, by inference, connect a suspect or object with a crime scene, prove or disprove an alibi, provide investigative leads or substantiate a theorized chain of events. (See MIOG, Part II, 13-15 (2).)

EFFECTIVE: 11/21/97

13-11.1 Glass

Glass, a noncrystalline, rigid material usually exhibits excellent physical, optical and compositional properties for comparison purposes. When a window breaks, glass particles can shower 10 feet or more toward the direction of the force. Particles, therefore, get onto hair and clothing of the perpetrator. Particles also become embedded in bullets and/or objects used to break windows. Particles of broken glass from a hit-and-run vehicle are often found on the victim's clothing.

(1) Deleted

(2) The Laboratory examiner cannot identify the source to the exclusion of ALL other sources; however, it can be stated and demonstrated that it is highly improbable that the particles came from a source other than the matching known source; if two or more different known sources can be matched, the conclusion is greatly enhanced.

EFFECTIVE: 11/21/97

13-11.1.1 Glass Fractures

Fracture patterns are unique. A physical match of two pieces of glass establishes that they came from a|mutual|source to the exclusion of all other sources; examinations also result in valuable information as to the direction of the breaking force.

(1) Penetration of glass panes by bullets or high speed projectiles produces a cone pattern from which the direction and the angle of penetration can be determined. If the cone is not present, stress line patterns as described below are used to determine the direction of the force.

(2) By a study of stress lines on radial cracks near the point of impact, the direction of the force which broke the glass can be determined.

(a) This determination depends on identification of the radial cracks and the point or points of impact. A sufficient amount of glass must be submitted to reconstruct a portion of the pane from the edge to the point of impact. All, or as much as possible, of the pane should be submitted.

(b) The pieces of glass remaining in the window after the breaking should each be labeled to indicate inside or outside, left, right, top or bottom prior to submission to the Laboratory. (See 13-11.1.3 below.)

(c) The direction of the breaking force usually cannot be determined from tempered glass (commonly found in side and rear auto windows) or very small panes of glass.

(d) Laminated glass, such as windshields, present special problems. Submit entire windshield if possible.

(e) Heat breaks can be identified, but the side on which the heat was applied cannot be determined from fracture edges.

(3) Pieces of glass may often be fitted together.

(a) By fitting pieces together with microscopic matching of stress lines, the Laboratory examiner can positively

identify the pieces as originally having been broken from a single pane, bottle or headlight. (See 13-11.1.3 below.)

(b) If pertinent portions of a bottle or headlight can be fitted together, the manufacturer, type, etc., may be determined for lead purposes.

EFFECTIVE: 11/21/97

13-11.1.2 Glass Fibers and Fiberglass Insulation Materials

Glass fibers from boats, auto fenders, filters and most often building or duct insulations may adhere to the clothing or belongings of suspects. By microscopic comparison, glass fibers are identified and compared with the known source.

EFFECTIVE: 09/24/93

13-11.1.3 Collection of Glass Specimens (See MIOG, Part II, 13-11.1.1(2)(b) & (3)(a).)

(1) In cases where the direction of breaking force is required, pieces left undisturbed in the window must be marked as to inside or outside, top, bottom, left, right and all available glass must be submitted so that enough pieces can be fitted together to identify the radial cracks near and at the point of impact.

(2) Where pieces are large enough to fit together, all available glass must be submitted to increase the probability of finding matching edges.

(3) Do not place glass samples in paper or plastic bags and envelopes. Wrap each piece securely and package tightly.

(4) Send all available items of clothing of the suspect, comb his/her hair and check for particles in sweat on skin and in wounds.

(5) Where fiberglass insulation is involved, be sure all sources from various areas are sampled. Look for added insulation

over older insulation. Send both.

EFFECTIVE: 09/24/93

13-11.2 Soils, Dusts, Debris

Soil is defined as any finely divided material on the surface of the earth and may contain such man-made materials as cinders, shingle stones, glass particles, paint, rust, etc. Soil, as a category, includes debris, industrial dusts, oily soil from under vehicles as well as natural soils.

EFFECTIVE: 06/15/81

13-11.2.1 Value of Soil as Evidence

(1) Soil varies widely from point to point on the surface of the earth and even more with depth. Many small samples are better than one large sample.

(2) Soil cannot be positively identified as coming from one source to the exclusion of all others; but the Laboratory expert can associate questioned soil with a most probable source, conclude that a source cannot be eliminated or that a point or area could not be the source of the questioned soil. Such conclusions have proven extremely valuable in the proof of criminal cases.

(3) Industrial dust specimens or soil near factories are often distinctive.

(4) Debris may contain particles characteristic of a specific area.

EFFECTIVE: 06/15/81

13-11.2.2 Collection of Soil Specimens |(See MIOG, Part II, 13-6.7 (62).)|

(1) The investigator should seek likely areas at the crime scene such as shoe prints, tire marks, burial sites or muddy areas where a transfer of soil to the suspect is logical. The investigator should attempt to get samples which visually appear to be the same as the soil on the suspect's shoes or belongings.

(2) Several samples should be taken from crime scene areas because of the above-mentioned variation in small areas; additional samples in at least four directions up to 300 feet from the scene should be sampled to show that a variation does exist and to allow the Laboratory to "judge" the probability that the questioned soil could have come from the area. Samples should be taken from the surface no deeper than shoes or tires would depress the soil. Many small samples are desirable, a mixture from a large area or a sample taken too deep may introduce unwanted variations.

(3) Alibi areas such as the suspect's yard or work area should be sampled.

(4) |Deleted|

(5) Where soil has fallen or been deposited inside buildings or cars send carpets or attempt to keep lumps intact by secure packing; lumps break up in a too large, unpacked container.

(6) Soil from under car fenders may be in layers. Such soil should be chipped or cut off and packaged so that layers can be kept intact for comparison with similar lumps that may be found at the crime scene.

(7) Shoes, tires and other items should be submitted to the Laboratory. Attempts to remove the soil in the field may destroy valuable soil characteristics.

EFFECTIVE: 07/25/97

13-11.2.3 Packaging of Soil Specimens |(See MIOG, Part II, 13-6.7 (62).)|

(1) |Air dry soil before packaging.|

|(2)| Do not use envelopes or glass jars for soil.

|(3)| Use leakproof containers such as film canisters or plastic pill bottles.

EFFECTIVE: 11/21/97

13-11.3 Safe Insulations

Safe insulation is found between the walls of fire resistant safes in vaults and safe cabinets. It is readily transferred to tools and clothing.

EFFECTIVE: 01/11/85

13-11.3.1 Value as Evidence

(1) Safe insulation can usually be identified as such.

(2) The make of safe can often be determined by examination of the insulation.

(3) Microscopic comparison of particles or deposits with insulation from the broken safe connects, by inference, clothing or tools with the safe.

(4) Safe insulation on tools may "make" a case for possession of burglar's tools.

EFFECTIVE: 01/11/85

13-11.3.2 Collection and Packaging

(1) Sample near broken edge of insulation.

(2) Send tools or clothing to Laboratory; do not remove deposits in the field.

(3) Pack to keep lumps intact; protect deposits on tools by wrapping.

EFFECTIVE: 05/11/87

13-11.4 Building Materials

EFFECTIVE: 05/11/87

13-11.4.1 Value as Evidence

(1) Where entry is through a roof or wall, particles adhere to clothing or tools and may be on the loot or in toolbags or vehicles.

(2) These materials are usually common materials. Maximum value as evidence is gained through the presence of several types, such as brick, mortar, plaster, stucco, etc.

EFFECTIVE: 05/11/87

13-11.4.2 Collection and Packaging

(1) The hole should be examined and materials of each type should be obtained.

(2) Submit in leakproof containers.

EFFECTIVE: 05/11/87

13-11.5 Minerals, Rocks, Ceramics

These materials will be examined or compared as requested.

EFFECTIVE: 05/11/87

13-11.6 Abrasive Materials

In sabotage and malicious damage to engines, cars, trains, etc., abrasive materials may be put in oil or lubricants. These materials can be identified as sand or commercial abrasives and are of some value for comparison.

EFFECTIVE: 05/11/87

13-11.6.1 Collection of Specimens for Abrasives

(1) If oil, the oil from the engine sump and/or filters should be submitted; abrasives settle in oil or fuel.

(2) Send affected bearings or parts; the abrasive may be embedded; scratches or cuts may be typical of abrasive damage.

EFFECTIVE: 05/11/87

13-11.7 Gems, Precious Stones, Synthetic and Fake Gems

The Laboratory can determine whether gemstones are genuine, synthetic or fake. If expedient, a Laboratory examiner is available for on scene examinations. The Laboratory can, on a limited basis depending on inventory, provide identifiable or Bureau property gemstones for undercover operations whether or not recovery of the gemstones is anticipated.

EFFECTIVE: 09/24/93

13-12 FIREARMS IDENTIFICATION

Firearms identification deals with the comparison of bullets, cartridge cases and other ammunition components to a particular firearm to determine if they had been fired by that particular firearm to the exclusion of all other manufactured firearms.

EFFECTIVE: 04/07/97

13-12.1 Conclusions

Either one of the three conclusions listed below can be reached. If either (1) or (2) is reached, that conclusion is positive as in fingerprint identification.

(1) The bullet, cartridge case, or shotshell casing was fired by the weapon.

(2) The bullet, cartridge case, or shotshell casing was not fired by the weapon.

(3) There are not sufficient microscopic marks remaining on the bullet, cartridge case, or shotshell casing to determine if it was fired by the weapon or the condition of the weapon precludes the possibility of making an identification.

EFFECTIVE: 01/31/78

13-12.2 Terminology

EFFECTIVE: 01/31/78

13-12.2.1 Caliber

In general, caliber denotes the nominal bore diameter of a barrel measured in either hundredths of an inch (.01) or in millimeters (mm). This provides an initial grouping capability, such as referring to .22 caliber, .30 caliber or .38 caliber.

EFFECTIVE: 01/31/78

13-12.2.2 Cartridge Designations

These designations expand from the basic cartridge grouping in a variety of ways. Each one of these designations denotes a specific cartridge case size and configuration. While some cartridges will interchange, most are specific for a firearm of a particular cartridge designation. Among cartridge designations are the following:

(1) Descriptive words: .38 Special, .41 Magnum, .380 Auto, 9mm Corto.

(2) Original powder charge: .30-40 Krag.

(3) Manufacturer's or designer's name: .30 Remington, 6mm Remington, .257 Roberts

(4) Velocity: .250-3000

(5) Year of adoption: .30-06 Springfield

(6) Diameter in millimeters and length of case: 9 x 19, 8 x 57.

EFFECTIVE: 07/25/97

13-12.2.3 General Rifling Characteristics

These vary from manufacturer to manufacturer and consist of:

(1) Number of lands and grooves.

(2) The widths of the lands and grooves.

(3) Direction of twist of rifling.

(4) Caliber.

EFFECTIVE: 07/25/97

13-12.3 Types of Examinations

EFFECTIVE: 05/26/89

13-12.3.1 Bullets

Marks on bullets can be produced by rifling in the barrel of the firearm or possibly in loading.

(1) Recovered evidence bullet: Determine manufacturer, specific caliber, type and make of firearm from which fired and whether sufficient marks are present for identification. (Make of firearm involved based on general rifling characteristics.)

(2) Bullet versus firearm: Determine whether bullet fired from firearm.

(3) Shot pellets, buckshot and slugs from the victim or scene: Can identify size of the shot and gauge of the slug. Occasionally, shot can be identified to the barrel of a particular shotgun.

(4) When a bullet and/or fragments bearing no microscopic marks of value for identification purposes are encountered, it is often useful to perform a quantitative analysis of the bullet and/or fragment and compare them to the similarly analyzed bullets of any

recovered suspect ammunition (for example, cartridges remaining in suspect's firearm, cartridges in suspect's pockets, partial boxes of cartridges in suspect's residence). When two or more lead samples are determined to be compositionally indistinguishable from one another, a common manufacturer's source of lead is indicated. Lead composition information in conjunction with other circumstantial information is often useful in linking a suspect to a shooting. (Lead examinations are conducted by the Materials and Devices Unit. See MIOG, Part II, 13-14.)

Compositional analysis of shot pellets and rifled slugs can provide similar useful circumstantial information.

EFFECTIVE: 07/25/97

13-12.3.2 Fired Cartridge Case or Shotshell Casing

Marks on a fired cartridge case or shotshell casing can be produced by breech face, firing pin, chamber, extractor and ejector.

(1) Fired cartridge case found at scene: Determine specific caliber, type and possibly make of firearm in which fired, and whether sufficient marks are present for identification.

(2) Fired shotshell casing found at scene: Determine gauge, original factory loading and whether sufficient marks are present for identification.

(3) Wadding or shot from victim or scene: From wadding determine gauge and possibly manufacturer of wadding. From shot, determine size. Shot not identifiable with a suspect firearm.

(4) Fired cartridge case/shotshell casing versus firearm: To determine whether loaded into and/or fired in firearm.

(a) Based on identifiable firing pin impression, breech face or chamber marks, can establish as fired in specific firearm.

(b) Based on extractor or ejector marks, can only identify as having been loaded into and extracted from specific firearm.

EFFECTIVE: 04/07/97

13-12.3.3 Unfired Cartridge or Shotshell

(Note: See 13-12.4.2 regarding "Shipping of Live Ammunition.") Sometimes it is important to determine whether the unfired cartridge or shotshell was loaded into and extracted from a |firearm| based on the presence of extractor and/or ejector marks. The following can be determined:

(1) Cartridge: Specific caliber, type of |firearm| involved and whether sufficient marks for identification.

(2) Shotshell: Gauge and whether sufficient marks are present for identification.

(3) Cartridge/shotshell versus |firearm:| Determine if loaded into and extracted from a suspect |firearm.| Does not apply to revolvers.

EFFECTIVE: 04/07/97

13-12.3.4 Gunshot Residues

Gunshot residues may be located, depending on the muzzle-to-garment distance, by

(1) Microscopic examination of the area surrounding the hole for gunpowder particles and gunpowder residues, smudging and singeing.

(2) Chemical processing of area surrounding hole to develop a graphic representation of powder residues and lead residues around hole. Test patterns obtained compared with those produced at various distances using suspect firearm and ammunition like that used in the case--from same source if possible.

|(3) The Firearms/Toolmarks Unit (FTU) only examines victim's clothing for gunshot residues in order to determine distance

of the muzzle of the firearm to the clothing at the time of discharge. Therefore, only the clothing from the area where the victim was shot should be submitted for examination for gunshot residues. For example, if the victim was shot in the chest, requests for examination of the victim's pants, shoes, etc., for gunshot residues should not be made.

(4) In rare occasions the FTU will examine shooter's clothing for gunshot residues, primarily when there is evidence of a struggle between the victim and the subject. The FTU does not examine suspected shooter's clothing for the presence of gunshot residues in order to prove that they discharged a firearm. In the event an examination of a shooter's clothes for the presence of gunshot residues is needed, the request should be directed to the Chemistry Unit.

EFFECTIVE: 07/25/97

13-12.3.5 Shot Pattern

The distance at which a shotgun was fired can be determined. It is necessary to test fire THE SUSPECT|firearm|at various distances using the same type of ammunition as involved in the case being investigated. Fired shotshells from the suspect|firearm| can be submitted. See paragraph 13-12.4.2 regarding the shipment of live ammunition.

EFFECTIVE: 04/07/97

13-12.3.6 Trigger Pull

The amount of pressure necessary to fire a weapon can be determined.

EFFECTIVE: 05/26/89

13-12.3.7 Determination of Accidental Firing

"Accidental" is a determination of a state of mind; however, a firearm can be examined to determine if it can or cannot be fired without pulling the trigger.

EFFECTIVE: 04/07/97

13-12.3.8 Identification of Gun Parts

Gun parts found can be identified as to

(1) Type of firearm from which it originated

(2) In some cases, it might be possible to determine the part that came from a suspect firearm; however, in most instances, examination of the part will only determine if the part is consistent in observable physical characteristics with the type of parts utilized in the suspect firearm.

EFFECTIVE: 04/07/97

13-12.4 Submission of Evidence

EFFECTIVE: 05/26/89

13-12.4.1 Clothing for Gunshot Residue Examination

(1) Protect each article of clothing at the time of removal and wrap each separately. Each article of clothing that has blood on it must have a biohazard label placed on the outside of its individual package. A biohazard label must also be placed on the outside of the box containing the separate wrapped packages, as well as on the outer wrapping of the box. (See MIOG, Part II, 13-3.1 (4)(e).)

(2) Make certain all garments are AIR-DRIED in shade before submitting to the Laboratory.

(3) Provide autopsy reports and/or copies of autopsy photos if victim is deceased. Otherwise advise as to location of gunshot wounds.

EFFECTIVE: 04/01/96

13-12.4.2 Live Ammunition (See MIOG, Part II, 13-6.7 (5), (16), 13-6.7.1, 13-12.3.3, 13-12.3.5, 13-12.4.3; MAOP, Part II, 2-2.2.1, 6-2.3.9.)

Live ammunition cannot be sent through the U.S. Postal Service but can be shipped via Federal Express. The following guidelines must be strictly followed in order to comply with Department of Transportation regulations:

(1) Deleted

(2) Air Shipments (Federal Express) -

(a) Cardboard box with appropriate label and invoices marked "Federal Express."

(b) Shipper's certification for restricted articles.

(c) "Small Arms Ammunition" stamped on outside of box.

EFFECTIVE: 04/07/97

13-12.4.3 Bullets, Cartridge Cases and/or Firearms

(1) Ammunition components such as bullets, cartridge cases, wads and firearms can be sent to the Laboratory by registered mail, U.S. Postal Service. Complete cartridges, gunpowder and/or unfired primers must be shipped by Federal Express. (See MIOG, Part II, 13-6.7 (5), (15), (17), (29); MAOP, Part II, 6-2.3.9.)

(2) Firearms have been submitted to the Laboratory with foreign objects such as flex cuffs, pencils, etc., in the barrel/chamber area, or the actions have been left open which allowed packing material (styrofoam/shredded paper) to enter these areas. WHILE SAFETY IS CERTAINLY PARAMOUNT, AND EVERY EFFORT SHOULD BE MADE TO MAKE SURE A FIREARM IS UNLOADED WHEN IT IS SENT TO THE LABORATORY, it should be recognized that certain practices, while serving the purpose of rendering the firearm safe, can adversely affect some of the Laboratory examinations for which the firearm is being submitted.

(3) In firearms examinations, the most critical areas of a firearm are the bore, chamber and breech face. Placing a flex cuff through the barrel of a pistol, for example, could result in the cuff material rubbing against, and changing the microscopic marks in the bore and chamber areas of the barrel and the breech face area of the slide or dislodging trace evidence in these areas. Likewise, placing a pencil or rolled-up piece of paper in the action to keep it opened, could also adversely affect the marks on the breech face and also allow packing material to enter the firearm. In some instances, a firearm has been received which would not function due to shredded paper or styrofoam pellets having entered the action/chamber areas.

(4) As an examination of a firearm can involve additional Laboratory examinations for latent fingerprints, blood, etc., firearms evidence should be packaged to eliminate or reduce as much as possible the likelihood of damage to such evidence.

Firearms can be sent by registered mail, U.S. Postal Service.

EFFECTIVE: 04/07/97

13-12.5 Marking Specimens for Identification

(1) |Bullets, cartridge cases, shotshell casings, cartridges, shotshells and other firearms-related evidence should be marked with initials or other personal identifying data on the primary evidence container only. (Caution: Do not place markings on the item(s) itself. Any trace evidence on the item and the microscopic marks need protection from possible loss or destruction.)|

|(2)| Firearms: (See MIOG, Part II, 13-6.7 (29).)

|The primary container with the firearm should be marked with initials or other personal identifying data. (Caution: Do not place markings on the firearm itself. The firearm may need to undergo various examinations, such as DNA, Trace, or Latent Fingerprint; therefore, protection must be afforded to the firearm to avoid possible loss or destruction of evidence.)|

EFFECTIVE: 07/25/97

13-12.6 Obtaining Test Specimens

Whenever possible, the firearm should be submitted to the Laboratory. If the firearm cannot be submitted, |call the Firearms/Toolmarks Unit for instructions.|

EFFECTIVE: 07/25/97

13-12.7 Standard Reference Files

EFFECTIVE: 06/26/91

13-12.7.1 Reference Firearms Collection

This collection contains over|3,000|handguns and|2,000|shoulder weapons and is used for such things as:

(1) Locating serial numbers

(2) Replacing inoperable|firearms|parts

(3) Identifying gun parts

EFFECTIVE: 04/07/97

13-12.7.2 Standard Ammunition File

|The Standard Ammunition File is maintained in the FBI Laboratory's Firearms-Toolmarks Unit (FTU). This file is continuously updated and contains over 15,000 commercial and military ammunition specimens of both domestic and foreign manufacture. These specimens serve as standards which assist in the determination of ammunition type and manufacture. A computerized database permits comprehensive searching of this file on the basis of the observable physical characteristics present on unknown ammunition components.|

EFFECTIVE: 04/01/96

13-12.7.3 Reference Fired Specimen File

This file contains test bullets and cartridge cases obtained from|firearms|which have been|fired|in the Laboratory. (Note: An "Unidentified Ammunition File," "Open Case File" or "Unsolved Crime File" consisting of bullets and cartridge cases recovered from crime scenes is no longer maintained by the Laboratory.)

EFFECTIVE: 04/07/97

| |13-12.7.4 General Rifling Characteristics File (GRC)

This computerized data file contains information relating to the general rifling characteristics of a number of firearms. In those cases in which no firearm is provided, the GRC file is used by the Firearms-Toolmarks Unit to provide a list of firearms which could possibly have fired the submitted bullet or cartridge case.|

EFFECTIVE: 04/01/96

| 13-12.8 Disposition of|Firearms|and Related Property

The following guidelines are to be used in Bureau cases.

| (1) Any|firearm|to be disposed of should be done so by the Laboratory.

| (2) The Laboratory can dispose of|firearms|and related property with a court order, Declaration of Forfeiture, and a Declaration of Abandonment Vesting Title to the United States. If such cannot be obtained, see United States Marshal's Manual, Section 709.01 (Prisoner's Property) or Section 322.01 (Abandoned Property). When obtaining a court order, the requesting attorney should be | advised to seek an order directing the|firearms|into the custody of the FBI "for its use or for any other official purpose." The court order must be signed by a judge. (See MAOP, Part II, 2-4.4.6.)

| (3) The Laboratory can dispose of|firearms|and related property purchased with Bureau funds when all investigations and court proceedings have been adjudicated.

EFFECTIVE: 04/07/97

| 13-12.9 |Deleted|

EFFECTIVE: 05/31/94

| 13-12.9.1 |Deleted|

EFFECTIVE: 05/31/94

| 13-12.9.2 |Deleted|

EFFECTIVE: 05/31/94

| 13-12.9.3 |Deleted|

EFFECTIVE: 05/31/94

13-13 TOOLMARK IDENTIFICATION

Toolmark examinations include, but are not limited to, microscopic studies to determine if a given toolmark was produced by a specific tool. In a broader sense, they also include the identification of objects which forcibly contacted each other; were joined together under pressure for a period of time and then removed from contact; and were originally a single item before being broken or cut apart. The inclusion of these latter areas results from the general consideration that when two objects come in contact, the harder (the "tool") will mark the softer. (Saws, files and grinding wheels are generally not identifiable with marks they produce.)

EFFECTIVE: 01/31/78

13-13.1 Conclusions

(1) That the tool produced the toolmark

(2) That the tool did not produce the toolmark, or

(3) That there are not sufficient individual characteristics remaining within the toolmark to determine if the tool did or did not produce it.

EFFECTIVE: 01/31/78

13-13.2 Types of Toolmark Examinations

EFFECTIVE: 01/31/78

13-13.2.1 Toolmark with Tool

Several comparisons can be made between a tool and a toolmark such as the:

(1) Examination of the tool for foreign deposits such as paint or metal for comparison with a marked object.

(2) Establishment of the presence or nonpresence of consistent class characteristics.

(3) Microscopic comparison of a marked object with several test marks or cuts made with the tool.

EFFECTIVE: 01/31/78

13-13.2.2 Toolmark Without Tool

Examination of the toolmark can determine:

(1) Type of tool used (class characteristics)

(2) Size of tool used (class characteristics)

(3) Unusual features of tool (class or individual characteristics)

(4) Action employed by the tool in its operation

(5) Most importantly, if the toolmark is of value for identification purposes.

EFFECTIVE: 04/07/97

13-13.2.3 Metal Fracture

Fracture examinations are conducted to ascertain if a piece of metal from an item such as a bolt, automobile ornament, knife, screwdriver, etc., was or was not broken from a like damaged item available for comparison. This type of examination may be requested along with a metallurgical examination (see major topic 13-14 elsewhere in this section).

EFFECTIVE: 04/07/97

13-13.2.4 Marks in Wood

This examination is conducted to ascertain whether or not the marks left in a wood specimen can be associated with the tool used to cut them, such as pruning shears, auger bits, etc. This examination may be requested along with a wood examination (see secondary topic 13-9.7 elsewhere in this section).

EFFECTIVE: 01/31/78

13-13.2.5 Pressure/Contact

Pressure or Contact examinations are conducted to ascertain whether or not any two objects were or were not in contact with each other either momentarily or for a more extended time.

EFFECTIVE: 01/31/78

13-13.2.6 Theftingate Cast Material

Theftingate Cast Material impressions of stamped numbers in metal, such as altered vehicle identification numbers, can be examined and compared with other|cast impressions,|as well as with|suspect die stamps. Instructions for use of this casting material can be obtained from the Firearms/Toolmarks Unit, FBI Laboratory.| (See MIOG, Part II, 13-13.3.1.)

EFFECTIVE: 07/25/97

13-13.2.7 Lock and Key Examinations

(1) The purpose of a lock examination is to determine, if possible, if toolmarks are present that indicate attempts were made to pick the lock, or if some type of tool or instrument was used to force the lock. When such a request is made, only the lock or those parts of the lock which have visible toolmarks on them should be submitted. For example, if the outer doorknob was forced, then only that knob should be submitted for examination. Also, in the case of worn locks, marks that were already on the lock at the time of the crime should be noted in the request for examination.

(2) Examination of keys can determine their observable physical characteristics, such as number and depth of cuts, blade style, etc. A determination of whether key will operate a specific lock can only be made after the key is actually tested in the questioned|lock and does not require an examination by an examiner from the Firearms/Toolmarks Unit.|

(3) As the main thrust of the FTU examination is concerned with toolmarks, if there are questions about the operation of a particular style lock, consideration should be given to contacting a local locksmith with those questions.

EFFECTIVE: 07/25/97

13-13.3 Obtaining Evidence in Toolmark Cases (See MIOG, Part II, 13-6.7 (64).)

(1) It is most desirable, if possible, to submit the actual toolmarked area for direct comparison. (Note: In number restoration cases, the Laboratory will routinely make a cast of the toolmark for a possible future comparison with any suspect die stamps.)

(2) If it is impossible to submit the original, prepare and submit a cast, preferably using Theftingate Casting Material or a suitable silicone-based material. For instructions on how to prepare a plastic cast/impression see paragraph 13-13.3.1 below.

(3) Photographs, although helpful in presenting an overall location of the mark, are of no value for identification purposes.

(4) Do not forget to obtain samples of paint, safe insulation, and any other material likely to appear as foreign deposits on tools.

(5) DO NOT place the tool against the toolmark for size evaluation.

EFFECTIVE: 07/25/97

13-13.3.1 Theftingate Cast Material Impressions (See MIOG, Part I, 26-2.8; Part II, 10-3, 13-13.2.6, 13-13.3.)

The following instructions are for making a plastic cast/impression of stamped numbers in metal.

(1) All casts should be taken BEFORE ANY small number restoration is attempted. (See "Items with Obliterated Identification Markings" under secondary topic 13-14.2 elsewhere in this section for further information on number restoration.)

(2) Casts should be taken using Theftingate Cast Material (made by Advanced Ceramics Services, Denver, Colorado, Telephone Number (303) 237-5456) which should be available in each office or can be obtained by contacting the Firearms/Toolmarks Unit in the Laboratory Division.

(3) The number one priority in taking a cast of stamped numbers is cleaning the number area of any foreign matter as the cast material will duplicate any foreign material left in the stamped characters. Thus, paint and dirt should be removed from the stamped area with a suitable solvent (acetone, gasoline or a commercial paint remover). A toothbrush could be used to help clean down to the bottom of the stamped area and IN NO INSTANCE should a wire brush be used to clean the area as this will scratch the numbers and make subsequent identification of the stamps impossible. If there is any rust in the stamped numbers, use of "NAVAL JELLY" is helpful in removing the rust.

(4) Having cleaned the surface, a dam should be built around it to retain the liquid casting material while hardening and cooling. The liquid and the powder of the replica kit are mixed for one minute in the plastic bottle that contained the powder. The dam material should be a soft pliable clay-like material such as caulking cord, "Play Dough" or modeling clay. Prior to forming the dam, nylon filament tape should be placed at each end of the characters, partly within the dam area to facilitate the cast removal. All voids around the dam should be sealed to prevent leaking. Once the liquid has been poured and hardened, lift up on the ends of the tape to lift out the cast. If the cast has a lot of paint and rust, additional casts should be taken until the best possible cast has been obtained and this should be submitted to the Laboratory.

(5) The Theftingate Cast Material is available in three formulations for use in three different temperature ranges: 40 to 69 degrees Fahrenheit, 70 to 80 degrees Fahrenheit, and over 80 degrees Fahrenheit. At very low temperatures, setting time can be several

hours even when using the low temperature range formulation. In this instance, if possible, the vehicle or metal should be moved to a heated building. Further the area can be heated by several methods such as heat lamp, infrared light bulb, hair dryer directed on the number area and then upon the cast, etc. The use of a torch to heat the area is not recommended.

EFFECTIVE: 07/25/97

13-13.4 Submitting Toolmark Evidence to Laboratory (See MIOG, Part II, 13-6.7 (64).)

(1) Pack the evidence, possibly with cotton, to preserve the evidence and prevent contamination.

(2) Properly identify each item to facilitate court presentation. Consider the possible need in court of the object from which the specimen was cut.

(3) Submit the tool rather than making test cuts or impressions in field.

(4) Mark ends of evidence which are or are not to be examined.

EFFECTIVE: 07/25/97

13-13.5 Reference Files (See MIOG, Part I, 26-2.8.)

(1) National Automobile Altered Numbers File: The FBI Laboratory is maintaining in the National Automobile Altered Numbers File selected specimens, including surface replica plastic impressions of altered vehicle identification numbers found on stolen cars, trucks and heavy equipment. The purpose of this file is to have a central repository for such specimens of altered numbers so that comparisons can readily be made at any time in an attempt to identify recovered stolen cars and possibly link such vehicles with commercialized theft rings nationwide or other cases investigated by the Bureau.

(2) |Deleted|

EFFECTIVE: 04/07/97

13-13.6 Identification Manuals

Laboratory manuals concerning the identification of automobiles, foreign and domestic, tractor trucks, trailers and construction equipment are updated on a timely basis. These manuals contain both information and photographs which indicate [redacted] and provide investigative aids to the field Agent examining these kinds of equipment. Copies of these manuals can be obtained by contacting the Firearms-Toolmarks Unit of the Laboratory Division.| b2/b7E

EFFECTIVE: 05/26/83

13-14 METALLURGY EXAMINATIONS |(See MIOG, Part II, 13-12.3.1, 13-13.2.3.)|

|Metallurgy encompasses the science of metals and other materials. These materials|may be metallurgically examined for comparison purposes and/or information purposes.

EFFECTIVE: 07/25/97

13-14.1 Examinations for Comparison Purposes

Determinations to ascertain if two metallic|or nonmetallic|objects came from the same source or from each other usually require evaluations based on surface characteristics, microstructural characteristics, mechanical properties and composition.

(1) Surface Characteristics - macroscopic and microscopic features exhibited by the metal|or material|surface including

fractured areas, accidental marks or accidentally damaged areas, manufacturing defects, material defects, fabrication marks and fabrication finish. The fabrication features reveal part of the mechanical history of how a metal was formed; e.g., if it was cast, forged, hot-rolled, cold-rolled, extruded, drawn, swaged, milled, spun, pressed, etc.

(2) Microstructural Characteristics - the internal structural features of a metal as revealed by optical and electron microscopy. Structural features include the size and shape of grains; the size, shape and distribution of secondary phases and nonmetallic inclusions; and segregation and other heterogeneous conditions. The microstructure is related to the composition of the metal and to the thermal and mechanical histories of the metal, including post-fabrication exposures and/or deformations.

(3) Mechanical Properties - describes the response of a material to an applied force or load, e.g., strength, ductility, hardness.

(4) Composition - the chemical element make-up of the material including major alloying elements and trace element constituents. Because most commercial metals and alloys are nonhomogeneous materials and may have substantial elemental variations, small metal samples or particles may not be compositionally representative of the bulk metal.

EFFECTIVE: 07/25/97

13-14.2 Examinations for Information Purposes

Some of the kinds of information that can result from metallurgical examinations of materials in various conditions are listed below:

(1) Damaged metallic or nonmetallic items

(a) Cause of the failure or damage.

(b) The magnitude of the force or load which caused the failure.

(c) The possible means by which the force or load was transmitted to the |item| and the direction in which it was transmitted.

(2) Burned, heated or melted metal

(a) Temperature to which the metal was exposed.

(b) Nature |and/or direction| of the heat source which damaged the metal.

(c) Whether the |item| was involved in an electrical short-circuit situation.

(3) Rusted or corroded metal - length of time the metal had been subjected to the environment which caused the rust or corrosion. Requires that the investigator submit information concerning the environmental conditions.

(4) Cut or severed |material|

(a) Method by which the |material| was severed - sawing, shearing, milling, turning, electrical arcing, flame cutting (oxyacetylene torch or "burning bar"), etc.

(b) |Temperatures and/or type of equipment required.|

(c) |Deleted|

(5) |Fragments|

(a) Method by which the fragments were formed.

(b) If fragments had been formed by high velocity forces, may determine if an explosive had been detonated and the ||relative| magnitude of the detonation velocity.

(c) Possible identification of the item which was the source of the fragments. In bombings, timing mechanisms can often be identified as to type, manufacturer and model; determinations are often possible as to the time displayed by the mechanism when the explosive detonated and as to the relative length of time the mechanism was functioning prior to the explosion.

(6) Watches, clocks and timers

(a) Condition responsible for causing the timing mechanism to stop or malfunction.

(b) Whether the time displayed by the mechanism represents AM or PM (calendar-type timing mechanisms only).

(7) Deleted

(8) Lamp bulbs

(a) Whether a broken lamp bulb was incandescent at the time the glass portion broke.

(b) Whether an unbroken lamp bulb was incandescent at the time it was subjected to impact forces such as those developed in vehicular collisions.

(9) Objects with questioned internal components: X-ray radiography can reveal the interior construction and the presence or absence of cavities or foreign material.

(10) Items with obliterated identification markings - Obliterated identification markings are often restorable, including markings obliterated by melting of the metal (welding, "puddling"). Obliterated markings can also be restored on materials other than metal. Because different metals and alloys often require specific methods for restoration of obliterated markings, the Laboratory should be contacted before any field processing for number restoration is attempted. |(See MIOG, Part I, 26-2.8 (1); Part II, 10-3, 13-13.3.1.)|

|(11) Speedometers: Speed indicated at impact.|

EFFECTIVE: 07/25/97

13-15 MATERIALS ANALYSIS EXAMINATIONS

(1) |These examinations are made by the Chemistry Unit. (See MIOG, Part II, 13-10.)| These examinations entail the use of microscopic, microchemical and instrumental techniques such as Fourier transform infrared spectroscopy, X-ray diffraction, pyrolysis gas chromatography - mass spectrometry, scanning electron microscopy, differential thermal analysis, capillary electrophoresis, liquid and ion chromatography, etc., for both organic and inorganic analyses, identification and/or comparison of the compositions of paints, plastics (polymers), tape (electrical, masking, and duct tapes), glues, caulker/sealants, cosmetics, explosives and explosive residues.

(2) Mineralogy is part of the|Trace Evidence|Unit (see|MIOG,|Part II, 13-11 for mineralogy examinations).

EFFECTIVE: 07/25/97

13-15.1 Paints, Cosmetics, Plastic|Products, and Tapes|

EFFECTIVE: 09/03/93

13-15.1.1 Automobile Paints

It is possible to establish the color, year and make of an automobile from a paint chip by use of the National Automotive Paint File which contains paint panels representing the original paint finish systems used on all makes of American cars, light trucks, vans, and most foreign cars. A very careful search of the accident or crime scene should be made to locate small chips because:

(1) Paint fragments are often found in the clothing of a hit-and-run victim|during Laboratory examinations.|

(2) Paints may be transferred from one car to another, from car to object, or from object to car during an accident or the commission of a crime.

(3) The paint particles may not be big enough to recognize/detect with the unaided eye so suspected transfer items should be submitted to the Laboratory for complete analysis. Also, thinly deposited smears of paint may vary in color and should not be eliminated during a field examination.

EFFECTIVE: 05/31/94

13-15.1.2 Nonautomobile Paints and Other Coatings

(1) Coatings of all types can be analyzed and compared. Paint on safes, vaults, window sills, door frames, furniture, bicycles, etc., may be transferred when forcible contact is made with another object. For example, a comparison can be made between the paint on an object and the paint on a tool to determine if there was contact with a particular painted surface. However, the manufacturer cannot be determined (other than original automotive paint finishes).

(2) Fine art authentication through complete chemical analyses of the coatings/materials utilized in the painting can be performed.

EFFECTIVE: 05/31/94

13-15.1.3 Cosmetics and Related Items

Known and questioned samples of cosmetics, such as lipstick, face powder, body lotions and lubricants, and various other make-up materials can be compared with each other but they normally cannot be associated with a specific source, manufacturer or distributor.

EFFECTIVE: 05/31/94

13-15.1.4 Plastics/Polymers

It is|usually|not possible to specifically identify the |particular|source, use, or manufacturer of plastic items from composition alone but comparisons such as the following can be made:

(1) Trim from automobiles, depending upon the uniqueness of the composition, is compared with plastic remaining on the victim or property struck in a hit-and-run.

(2) Plastics comprising insulation on wire used in bombings or other crimes are compared with known or suspected sources of insulated wire.

(3) Miscellaneous plastic material (including buttons) from crime scenes is compared with possible sources.

EFFECTIVE: 05/31/94

13-15.1.5 Tape

A positive identification may be made with the torn or cut piece of tape left at the scene of the crime or on a victim and a roll of suspect tape (similar to fabric examination).

(1) Associations of tapes left at the scene and from suspected sources are determined from physical and compositional characteristics.

(2) Deleted

(3) |Trace Evidence|Unit maintains a duct tape reference file.

EFFECTIVE: 07/25/97

|13-15.1.6 Explosive Residues

See Part II, Section 13-6.7.1.|

EFFECTIVE: 05/26/89

13-15.2 Fluorescent Powders and Other Marking Materials

EFFECTIVE: 09/03/93

13-15.2.1 Purpose

Marking materials are used to prepare an object, be it a decoy package, cash box, money, etc., in order that a detectable trace will be left on a person or the property of a person who handled the object.

EFFECTIVE: 05/26/89

13-15.2.2 Selection Factors

(1) The choice of material depends on factors inherent with each situation. These materials can be obtained as kits from commercial vendors.

(2) The material used can be a dry powder, liquid, or grease and be available in many visible and fluorescent colors.

(3) Fluorescent materials require a source of ultraviolet light to examine the subject's hands or clothing.

(4) Deleted

(5) Deleted

EFFECTIVE: 09/24/93

| 13-15.2.3 |Deleted|

EFFECTIVE: 09/03/93

| 13-15.2.4 |Deleted|

EFFECTIVE: 09/03/93

| 13-15.2.5 |Deleted|

EFFECTIVE: 09/03/93

13-15.2.6 Fluorescent Materials

(1) Have the advantage of not being visible to the subject.

(2) Have the capability of being subsequently identified as the same powder used, by analysis of deposits on clothing, etc.

(3) Have the disadvantage of requiring a source of ultraviolet light (see item (7) below).

(4) Phosphorescent materials are different from fluorescent powders and must not be used since these may be detected by the subject even without an ultraviolet source.

(5) Must be applied in a finely ground or powdered form.

(6) Choice of form depends on object to be marked, for example:

(a) Contact areas of tools can be coated with a grease, such as vaseline, mixed with a fluorescent powder without creating suspicion. Richer deposits are transferred when grease film is used.

(b) Normally dry surfaces, such as gloves, money, doorknobs, steering wheels, etc., would arouse suspicion if coated with a grease. After coating an appropriate surface with grease, the remainder of object and/or container may be dusted with dry powder.

(c) Time, amount of light, and other factors may limit application to dusting since the dusting procedure is rapid and does not require meticulous attention.

(d) Liquid fluorescent materials normally used as a writing medium. Care must be taken to prevent liquid marks or discolorations on paper or surface treated.

(7) Availability of fluorescent materials: Questions on availability and appropriateness of chemicals to particular problems can be resolved by contacting the Trace Evidence Unit of the Laboratory, extension [redacted] or [redacted]

(8) Procedures for application:

(a) In applying grease, use bare fingers or an appropriate applicator and rub it over the surfaces of the items to be marked so as to leave a thin film. Avoid large "globs" of grease. The common fluorescent materials available from the Laboratory are not dangerous or toxic substances and will not be readily absorbed through the skin. However, normal precautions should be made to avoid direct inhalation or contact with the eyes and mouth.

(b) In applying powder form, numerous methods are commonly used, such as shaking powder over items, dusting with a powder puff or pad of cheesecloth, or brushing over the surfaces in a manner similar to that used to dust with fingerprint powder.

(c) Liquids can be applied with a clean pen, small paint brush, or spray-type dispenser.

CARE SHOULD BE TAKEN SO THAT THE FLUORESCENT SOURCE IS NOT DIRECTED AT THE EYES, SINCE THE ULTRAVIOLET RAYS FROM THE LIGHT CAN CAUSE DAMAGE TO THE EYES.

EFFECTIVE: 07/25/97

13-15.2.7 On-Site Laboratory Assistance to Field

Any requests for on-site assistance by|Trace Evidence|Unit personnel in a high-priority crime scene situation must be made by direct communication between the SAC and the Assistant Director, Laboratory Division. Such requests should only be made when the available services of the field crime scene search team will not fully meet the needs of the situation. This on-site support would include, but is not limited to, detection (i.e., explosives, drugs or drug by-products), recovery, preservation and delivery to the Laboratory of trace evidentiary materials considered to be of probative value in the investigation.

EFFECTIVE: 07/25/97

13-16 |SUPPORT SERVICES AND EXAMINATIONS IN BOMBING AND EXPLOSIVE MATTERS|

EFFECTIVE: 09/24/93

13-16.1 |Deleted|

EFFECTIVE: 09/24/93

13-16.2 Handling, Transportation and Storage of Explosives|or Suspected Explosives (See MAOP, Part II, 2-4.4.11.)|

(1) Explosives|or suspected explosives|should only be handled by trained Laboratory Division personnel or certified Special Agent bomb technicians. The handling, transportation and storage of explosives should always be carried out in a safe, reasonable and prudent manner consistent with applicable laws and regulations.

(2) Each field division, through liaison contacts with local law enforcement agencies and U.S. military commands, should establish suitable and proper storage for explosives seized in the course of Bureau investigations or for use in training matters dealing with explosives. In the event suitable and proper explosives storage arrangements cannot be achieved to meet a field division's requirements, the purchase of a portable magazine(s) may be required.

(3) Any problems or questions regarding the handling, transportation and storage of explosives should be immediately resolved through contact with the Laboratory|Division's Materials and Devices Unit.|

EFFECTIVE: 04/07/97

13-16.3 Render Safe Assistance to the FBI

All offices are to have established liaison with|public safety bomb squads and|United States Military Explosive Ordnance Disposal (EOD) Units|in order that assistance can be promptly obtained if explosives|and/or bombs are encountered in connection with official investigations. |The public safety bomb squad response is an integral part of the FBI Counterterrorism and narcoterrorism programs, and as such, liaison with these squads is an extremely important responsibility which|should be handled by the Special Agent field bomb technician.

(1) The United States Army has EOD Units stationed throughout the continental United States plus Alaska and Hawaii. These Units have provided support to the Bureau in the past and have personnel qualified to handle explosives and bombs. Due to emergency conditions, requests for assistance from Army EOD Units will usually be oral. Such oral requests are to be confirmed by letter addressed

to the Commanding Officer of the EOD Unit involved.

(2) The Army does not have an EOD Unit in Puerto Rico. Therefore, the San Juan Office should have established liaison with an appropriate United States Navy facility.

EFFECTIVE: 02/12/92

13-16.4 On-Site Laboratory Assistance to Field

Any requests for on-site assistance by Laboratory personnel in an explosives-related situation must be made by direct communication between the SAC and the Assistant Director in Charge, Laboratory Division. Such requests should only be made when the available services of the field division bomb technician will not fully meet the needs of the situation. This on-site support includes, but is not limited to, forensic investigation at major bombing crime scenes, participating in raids or searches wherein explosives may be encountered and technical support for principal bomb squad.

EFFECTIVE: 02/12/92

13-16.5 [redacted] Technique

The Materials and Devices Unit, Laboratory Division, has the capability of [redacted] This technique, called the [redacted] is closely controlled by the Laboratory and may only be initiated by explosive specialists from the Materials and Devices Unit. b2/b7E

(1) The Laboratory maintains a collection of [redacted] from which to draw upon when this technique is deemed appropriate. Additionally, items not in stock may be obtained from manufacturers where appropriate lead time is allowed. Items in this collection include: [redacted]

(2) [redacted]

[redacted] b2/b7E

(3) For this technique to be implemented, approval must be obtained from the applicable Criminal Investigative Division section supervising the parent case. Coordination will then be made with the Laboratory regarding the specifics of th[redacted] proposal. Under no circumstances should any FBI personnel attempt to conduct [redacted] without the appropriate approval and coordination with the Laboratory|Materials and Devices Unit.|

EFFECTIVE: 04/07/97

13-16.6 Shipping Explosives, Hoax Bombs, and Bomb Components to the Laboratory for Examination (See MIOG, Part II, 13-6.7 (44).)

(1) Explosives are currently classified as hazardous material. Therefore, special packaging is required and the amount which can be sent in each shipment is regulated.

(2) The Materials and Devices Unit is to be contacted for shipping and packaging instructions EACH AND EVERY TIME an explosive, hoax bomb, or bomb component is to be shipped to the Laboratory Division for examination. The shipping instructions furnished must be strictly adhered to because the improper packaging and shipment of an explosive is a serious matter affecting safety, and violations of shipping regulations will not be tolerated.

(3) |Prior to mailing/shipping items between Bureau offices which, when x-rayed, might appear suspicious, an immediate teletype must be sent or a telephone call made to the recipient. The teletype or telephone call should identify the shipping method (United States Postal Service Registered, FedEx, etc.) identifying/tracking number, office of origin, description of contents, date it was mailed/shipped, and any other information which may be beneficial to the recipient.

(a) Upon receipt of the above-mentioned information, the recipient must complete an FD-861 and post it on or near the x-ray machine in a conspicuous manner. It is the responsibility of each office to designate an appropriate area for the posting of such

information and advise all employees responsible for x-raying incoming mail and related material of the designated area. Also, appropriate security must be afforded to the Mail/Package Alert Forms to prevent possible compromise. That is, the posting of such information in unsecured FBI space (i.e., loading dock, reception area, etc.) is strictly prohibited.

(b) The form must remain posted at all times until the item in question is received. Upon receipt of the questionable item, the FD-861 should be removed from the x-ray machine or designated area, and the bottom portion of the form completed (initials of the employee who identified the package and date received). The completed form should be retained for 90 days. Thereafter, the form should be disposed in official receptacles.

(c) The same procedures apply for mailing/shipping to the J. Edgar Hoover (JEH) FBI Building. An immediate teletype must be sent to FBIHQ, Attention: Mail Services Unit (MSU), Room 1B006, or call [redacted] (8 a.m. - 4:30 p.m., EST) or [redacted] (24 hours a day, seven days a week). The MSU will be responsible for ensuring appropriate JEH FBI personnel are advised of the questionable item. b2

(d) When mailing/shipping possible suspicious-looking items OUTSIDE the Bureau, offices should make a courtesy telephone call to the recipient, providing the same information as described above (i.e., shipping method, identifying/tracking number, date sent, description of contents, etc.). (See MIOG, Part I, 91-8 (11).)

EFFECTIVE: 06/04/97

13-16.6.1 Examination and Tests of Explosives and Explosive Devices

(1) The Laboratory|Materials and Devices Unit|will conduct all forensic explosive testing and examination of explosive devices at the Quantico explosives|ranges, or other ranges deemed appropriate,|in support of FBI investigations and prosecutions.

(2) Such examinations or tests which must be conducted in the field due to exigent circumstances must have the approval of the Laboratory Division. Special Agents of the|Materials and Devices Unit|will be assigned as appropriate to ensure that all forensic

considerations and safety requirements are in accordance with applicable laws and regualtions.

(3) This requirement extends to the handling, shipping and storage of explosive materials and verification testing of live explosives or devices to be carried out in the field where investigative matters are involved.

EFFECTIVE: 04/07/97

13-16.7 Examinations of Bombs and Explosives

(1) Bombing evidence is examined to identify the components and fabrication techniques utilized in the bomb, to reconstruct the bomb, find clues that will assist in the identification of the bomb builder and to determine if the bomb is like previously examined bombs. The|Materials and Devices Unit| is primarily responsible for the examination of all explosive devices and hoax bomb devices. All bombing evidence should be shipped to the Laboratory to the attention of the|Evidence Control Center and the Materials and Devices Unit.| Forensic bombing examinations are subdivided into five categories: (1) the main charge explosive, (2) the fuzing system (initiation system), (3) function tests, (4) destructive capability evaluations and (5) intercomparison examinations.

(2) The|Materials and Devices Unit|must approve the proposed use of explosives by [redacted] in conjunction with the Criminal Investigative Division. The|Materials and Devices Unit|will provide guidance and instruction as necessary on the feasibility and safe handling of [redacted] Under no circumstances should [redacted] without prior approval of the |Materials and Devices Unit.|

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(3) The|Materials and Devices Unit|must approve all [redacted] in FBI investigations.

EFFECTIVE: 04/07/97

13-16.7.1 Explosive Examinations (See MIOG, Part II, 13-15.1.6.)

The|Chemistry|Unit conducts instrumental examinations of explosive materials from unexploded bombs and residue from exploded bombs. These examinations can yield the following information:

(1) Explosive residue examinations often identify the type of explosive(s) used in the construction of the bomb, i.e., dynamite, slurry, military, gun powder or homemade.

(2) Analysis of unexploded materials can very likely identify the manufacturer of the explosive, i.e., Dupont, Atlas, Hercules.

(3) Analysis of unexploded materials from bombs can also provide detailed compositional information about the explosive that can permit comparisons with explosives seized from caches and suspects.

(4) It is important to know that most residues of an explosive are water soluble, and, therefore, these residues must be protected from moisture. Also, other residues evaporate quickly necessitating the immediate sealing of collected debris in airtight metal cans. Also recognize that modern chemical analytical techniques are capable of detecting extremely minute amounts of explosives. These capabilities require that personnel handling bombing evidence be absolutely sure they are not contaminating evidence with residues on their hands or clothing that they have picked up elsewhere.

(5) DO NOT USE A HEAT-SEAL CONTAINER, SCREW-ON LID OR OTHER HEAT-, FRICTION- OR STATIC ELECTRICITY- PRODUCING CONTAINER TO HANDLE, SHIP, TRANSPORT OR STORE LIVE EXPLOSIVES OR SUSPECT EXPLOSIVE MATERIALS. THIS DOES NOT INCLUDE SHIPPING OF EXPLOSIVE RESIDUE FOLLOWING THE COLLECTION OF DEBRIS FOLLOWING AN EXPLOSION.

EFFECTIVE: 07/25/97

13-16.7.2 Fuzing System Examinations

The fuzing system of a bomb is the mechanism that, when activated, makes the bomb explode. A fuzing system can be something as simple as a burning fuse, or as complicated as a radio control mechanism. Examinations of a fuzing system can provide valuable investigative information as well as forensic information.

(1) [redacted]

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(2) [redacted]

(3) [redacted]

EFFECTIVE: 02/12/92

13-16.7.3 Function Tests of Bomb Fuzing Systems

Routine examinations of unexploded fuzing systems include evaluations to determine if the system could function the bomb if it were activated. Statements concerning these tests will be included in the Laboratory report. If requested, bomb fuzing system plans can also be evaluated to determine if they are workable.

EFFECTIVE: 02/12/92

13-16.7.4 Destructive Capability Evaluations

Routine examination of unexploded bombs includes an evaluation of the bomb's destructive capability. Statements concerning these evaluations are set forth in the Laboratory report. If important to the investigative effort, on-site evaluation of a bomb's blast effects can be made and expert testimony rendered about the size and type of explosive utilized.

EFFECTIVE: 02/12/92

13-16.7.5 Intercomparison Examinations

Intercomparison examinations of bombs, bomb debris and bombing related evidence are conducted to determine if the same person(s), plans and/or source of materials are involved in multiple incidents. The case Agent should request these types of examinations when investigation indicates a common link between bombing incidents. It should be noted that in certain situations the suspect and bombing incident can be positively linked through intercomparison examinations [redacted] b2 b7E

EFFECTIVE: 02/12/92

13-16.8 Explosive Reference Files

The |Materials and Devices| Unit maintains extensive reference files on commercial and military explosives and improvised explosive devices or homemade bombs. These files contain technical data plus known standards of explosive items and bomb components. Information in these files is routinely compared with bombing evidence under examination and any associations will be reported.

EFFECTIVE: 04/07/97

| 13-16.9 |Bomb Data Center|Program

| The additional mission of the FBI|Bomb Data Center|is to provide state of the art training to and develop technology for public safety bomb disposal technicians, provide operational support to law enforcement agencies during special events and/or crisis management situations and to gather and disseminate information pertaining to bombing matters.

EFFECTIVE: 04/07/97

13-16.9.1 Technical Publications

| The FBI|Bomb Data Center|is responsible for the collection, collation and dissemination of up-to-date statistical and technical information concerning improvised explosive devices, render safe procedures, explosive research and technical equipment used by public safety bomb technicians.

| The principal publications of the|Bomb Data Center|are disseminated through three distinct mailing lists:

(1) PUBLICATIONS CONTAINING UNRESTRICTED INFORMATION - These publications provide information of a general nature. They set forth the results of tests conducted on bomb handling and detection equipment and other data of general interest. The dissemination of these publications is not restricted to law enforcement agencies. Public utilities such as electric power, natural gas, water or similar companies which carry out functions relating to welfare and security of a community, and corporate security offices may be placed on the mailing list to receive unrestricted information. These publications are mailed to the heads of participating organizations, or they may be addressed to the head of any subordinate unit designated by the department head, e.g., commander, bomb squad; lieutenant, burglary squad, and require no special security precautions. The publication is known as the GENERAL INFORMATION BULLETIN (GIB).

(2) PUBLICATIONS CONTAINING RESTRICTED INFORMATION - These publications, available only to public safety agencies and certain military units, provide information of sensitive nature and are labeled RESTRICTED INFORMATION. The present information about the design and functioning of specific bombs which have actually been

constructed, current and vital information concerning new or potential bomb-type hazards, methods of coping with certain bombs, and other information of specific interest to the bomb incident investigator. Because the information is considered restricted, the distribution of these bulletins is limited to those participants who have a need to know. They are mailed to the heads of participating organizations or they may also be addressed to the head of any subordinate unit designated by the department head, e.g., commander, bomb squad; lieutenant, burglary squad, for dissemination only to those persons who have a need for the information contained therein. They must not be made available to unauthorized persons. All participants who receive these publications also receive those containing unrestricted information. Recipients of restricted material must agree to safeguard the information. This publication is known as the INVESTIGATORS' BULLETIN (IB).

(3) SPECIAL TECHNICIAN'S BULLETIN (STB) - These publications, containing technical information intended only for the trained bomb technician, are also labeled RESTRICTED INFORMATION. They detail information regarding disarming procedures which have been employed against specific bombs, new or novel commercial items which may ultimately be encountered in improvised explosive devices, and other technical data which will be of specific interest to bomb technicians. Any attempt by an untrained person to apply the techniques or procedures contained in the STB could result in injury or death. Because of this, the STB is not mailed to the agency head but to the bomb squad commander for dissemination to qualified active members of the bomb squad. After receipt, it is the specific responsibility of the individual bomb technician to assure that these publications are not made available to unauthorized individuals. To obtain the STB, each bomb technician must be certified by his/her chief or supervisor in accordance with the following instructions:

(a) For Hazardous Devices School Graduates - The name and rank or title of the technician, the name and mailing address of the department or agency to which he/she belongs, and the date that he/she is presently employed as a bomb technician.

(b) Others - Active duty military EOD personnel will receive STB's through their parent commands.

(4) In addition to the established mailing list program, the Bomb Data Center can supply FBI offices, public safety agencies and corporate security personnel with bomb threat cards, physical security manuals and handout material on the bomb threat challenge.

(5) The Bomb Data Center compiles and publishes quarterly statistical summaries on bombing incidents throughout the United States. Data utilized in these summaries is reported to the Bureau by Form FD-436. Use of this form is not restricted to incidents bearing the 174 classification (Explosives and Incendiary Devices; Bomb Threats). The statistical integrity of the bomb incident summaries requires that all explosive incidents in the following categories be reported: (See Correspondence Guide-Field, 3-5.2.)

(a) ACTUAL use of an explosive or incendiary device

(b) ATTEMPTED use of an explosive or incendiary device

(c) RECOVERY of an actual or hoax device

EFFECTIVE: 04/07/97

13-16.9.2 [redacted]

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[redacted]

EFFECTIVE: 04/07/97

13-16.9.3 Technical Research

The FBI Bomb Data Center manages research programs involving remote render-safe technology, explosive breaching, incendiary devices and firing systems of explosive and incendiary devices. Much of this research is conducted in conjunction with other federal agencies. Completed research reports are distributed to tactical units within the FBI as well as other interested public safety agencies.

EFFECTIVE: 04/07/97

13-16.9.4 FBI Hazardous Devices School (FBI HDS)

(1) Basic training of public safety bomb technicians in the United States is provided at the FBI Hazardous Devices School (FBI HDS), Redstone Arsenal, Huntsville, Alabama. The FBI has funded and administered FBI HDS through the Bomb Data Center since 1981 when Congress mandated that the FBI would assume responsibility for the training of public safety bomb technicians. An annual Interagency Support Agreement with the U.S. Army provides military support at Redstone Arsenal. The U.S. Army provides a staff comprised of full time military and civilian personnel.

(2) The basic course is designed to train state and local public safety officials as bomb technicians. The basic course combines classroom and range instruction in explosives technology, electronic circuitry and components of explosive devices, nonelectric components and priming, use of special equipment for the detection and handling of explosive devices, and render safe equipment and techniques. The basic course is given eight times per year with 18 students enrolled in each course.

(3) HDS basic course applicants must be committed to five years of continuous service on an active bomb squad. Travel, lodging,

and other expenses at the basic course are the responsibility of the trainee's agency.

(4) The one-week refresher course reviews basic principles and explores current developments in bomb disposal. The bomb technicians are placed in a variety of simulations which challenge their technical ability. HDS conducts twelve refresher courses each year with sixteen bomb technicians enrolled in each. The HDS refresher course is open to all basic course graduates. Reimbursement for travel, lodging, and subsistence is available from the FBI.

(5) ATTENDANCE PROCEDURE:

Any|full-time, sworn employee of a|local, state or federal public safety agency|with a render safe responsibility|may be selected for|the|HDS attendance. Priority selection status is given to local and state personnel with full-time render safe responsibilities. |Departments which sponsor students for the basic course must certify that the required safety equipment (full-coverage bomb suit, portable X-ray system, disrupter, demolition kit, and quality hand tools) is in the agency's inventory. Applications must be reviewed by the field office Special Agent bomb technician working with the Police Training Coordinator.|

(a) All applicants must: |(See MIOG, Part II, 13-16.9.7.)|

1. Be volunteers;

2. Be full-time, sworn, salaried officers assigned to bona fide public safety agencies;

3. Not be color blind;

4. Have vision in each eye which is not worse than 20/200 uncorrected and correctable to 20/20;

5. Not have a hearing loss in either ear which is greater than 60 decibels; and

6. Be in good health with no permanent or limiting disabilities.

7. Must fall within the Bureau weight chart (National Academy Standards) or have no more than 22 percent body fat.

(b) All applicants should:

1. Be committed to bomb technician work for a minimum of five years after graduation from HDS;

2. Have a minimum of five years' experience with their respective agencies prior to the date of the application;

3. Upon graduation, be assigned to duties normally associated with those of a bomb technician; and

4. Upon graduation, attend the one-week refresher course every 36 months.

(c) Requests for attendance must be directed to the local FBI field division, Attention: Police Training Coordinator. The requesting agency will receive:

Form FD-731	Information Form
Form FD-732	Waiver Form
SF-88	Medical Examination Form
Form 2-205	Attachment to Medical Form
FD-406	Authority to Release Information
	Performance Standard Test Certification (Refresher candidates)

(d) The FBI field division submitting the application is responsible for the following investigative steps:

1. Office indices check

2. Birth date verification

3. Credit and arrest check for five-year period preceding date of application. Authority to Release Information (FD-406) must be obtained from the nominee at onset of the investigation. Credit checks will be conducted by contractor personnel at FBIHQ.

Any information developed which reflects unfavorably upon character or reputation of nominee must be completely resolved. SAC should make his/her recommendation based on results of investigation. Selection will be based on availability of space, number of technicians already trained in that area, and specific need of department.

EFFECTIVE: 04/07/97

13-16.9.5 Bomb Technician's Seminar

Regional seminars are conducted by|Bomb Data Center|staff and field Special Agent bomb technicians on the construction and utilization of improvised explosive devices, techniques for remote neutralization, discussions of research and development and a review of new technical equipment. This seminar is only available to trained bomb technicians who are graduates of the FBI Hazardous Devices School.

EFFECTIVE: 04/07/97

13-16.9.6 |Post-Blast Investigator|Seminar

Regional seminars are conducted by|Bomb Data Center|staff on explosives recognition, investigative techniques and bomb crime scene procedures. This seminar is available to law enforcement personnel with investigative responsibilities in bombing cases.

EFFECTIVE: 04/07/97

13-16.9.7 Special Agent Bomb Technician Program

The Special Agent bomb technician program is voluntary and requires attendance at a four-week explosives course at the Hazardous Devices School, Redstone Arsenal. The purpose of this training, initiated more than fifteen years ago, is to provide specialized explosive training to Special Agents to improve the technical proficiency in bomb investigations and to establish a liaison link with public safety bomb squads. When the FBI assumed administration of the Hazardous Devices School in 1981, the cadre of Special Agent bomb technicians became an integral part of the Bureau's program of bomb technician and bomb investigator training.

(1) Special Agents nominated for this training shall meet the following criteria:

(a) Be an experienced investigator with a minimum of two years in the field.

(b) Have an overall Performance Appraisal Report rating of "Superior."

(c) Be in good physical condition, meeting the minimum standards detailed in section 13-16.9.4 (5)(a).

(d) Have a minimum of five years of service remaining prior to retirement.

(e) Successfully complete the recommended elements of the "Performance Standard Test."

(f) Be a volunteer, recognizing the inherent dangers of working with live explosives.

(g) Be recommended for the program by the SAC, to include observations regarding the candidate with the respect to:

1. oral/written communication skills.

2. ability to function well under stressful conditions.

3. availability for travel, both overseas and domestic, to assist in Bureau special assignments; major incidents, and regional police training.

4. demonstrated ability to work in a team environment. (See (i).)

(h) It is recommended that candidates for the program serve as members of the field division's Evidence Response Team; become certified police instructors; and have no other significant collateral duties.

(i) Following successful completion of the HDS Basic Course, Special Agent bomb technicians will serve an 18-month probationary period. Probationary Special Agent bomb technicians will be evaluated by Materials and Devices Unit personnel in the areas outlined in 13-16.9.7 (1)(g) 1. through 4. and performance of

the duties outlined in 13-16.9.7 (2)(a) ADMINISTRATIVE, (b) LIAISON, (c) TACTICAL, and (d) TRAINING. Additional evaluation will take place during the annual recertification seminar and through participation at a Regional Bomb Technician Seminar.

(2) Special Agent bomb technician, in addition to other duties as a field investigator, has the following responsibilities:

(a) ADMINISTRATIVE

1. Provides information and advice to the SAC in all matters involving the use, possession or transportation of explosives.

2. Coordinates the recovery of explosive evidence in FBI investigative matters as well as its safe shipment to the FBI Laboratory.

3. Compiles and reports to the Bomb Data Center information involving explosive devices encountered by public safety bomb squads and military EOD units.

4. Expeditiously reports to the Laboratory Division by telephone extraordinary bomb related events.

5. Assists the field office management in the development of emergency planning for a bombing occurrence.

6. Assists the office crime scene coordinator as necessary regarding bombing crime scene examinations and evidence collection.

7. Obtains and controls proper bunker space for the storage of explosive evidence, training devices, and tactical items.

8. Advises the Bomb Data Center of upcoming special events where specialized equipment may be required.

(b) LIAISON

1. Establishes and maintains communication with local military and civilian bomb disposal units.

2. Establishes and maintains communication with professional organizations (i.e., International Association of Bomb

Technicians and Investigators - IABTI) in their area, to include membership in and attendance at organizational functions.

3. Establishes and maintains communication with other federal agencies to ensure information is obtained regarding their encounters with explosives.

4. Stimulates participation in the Bomb Data Center publication program by encouraging innovative research or recording of unusual incidents by local bomb squads.

(c) TACTICAL

1. Acts as an information link between field office management and its tactical units in situations involving explosives.

2. Assists in assessments of potential explosive and/or booby trap devices encountered during investigative, arrest and search operations.

3. Is available to tactical units for "on scene" technical assistance and direct liaison with supporting bomb squad personnel.

(d) TRAINING

1. Plans and conducts periodic training for FBI personnel as office needs dictate. Such training may include bomb threat assessment, search techniques, explosives recognition or other similar courses.

2. Assists the Materials and Devices Unit in its national training program conducted regionally throughout the year by participating in at least one regional school.

3. Assists the field office police training coordinator with local requests for bomb-related instruction.

4. In addition to regional schools MUST participate in the Materials and Device Unit sponsored annual recertification program to assess technical abilities and safe explosive handling practices.

EXPLOSIVE BREACHING TECHNIQUE IS NOT AUTHORIZED FOR ANY FBI OR POLICE TRAINING PROGRAM

The Laboratory Division has trained personnel to provide additional support to the SAC in situations in which explosives may be anticipated. BOMBING TECHNICIANS OF THE|MATERIALS AND DEVICES UNIT|are available to provide advice on safety perimeters at a bomb location, remote handling procedures for the render safe of an improvised explosive device, effect liaison with the faculty of HDS, direct access to the worldwide system of bomb data centers and provide direct liaison with public safety bomb squads. EXPLOSIVES SPECIALISTS OF THE|MATERIALS AND DEVICES UNIT|will provide assistance in the processing of bombing crime scenes, searches of bomb factories, [redacted]upport and necessary forensic assistance. b2 b7E

EFFECTIVE: 04/07/97

13-16.9.8 Render Safe Equipment

(1) The primary goal of the bomb technician training at the Hazardous Devices School (HDS) is to save lives. Bomb technicians are taught remote render safe techniques so as to minimize the dangers inherent in bomb disposal activity. NO "HANDS ON" RENDER SAFE PROCEDURE IS RECOMMENDED UNLESS A LIFE IS IN IMMINENT DANGER AND THERE IS NO ALTERNATIVE. In order to support this philosophy, the FBI has included a wide range of high technology equipment in its training program. This equipment is utilized to illustrate the variety of remote techniques, to stimulate the acquisition of similar equipment by bomb squads and to provide an assessment of the capabilities of the equipment.

(2) The Laboratory Division possesses two self-contained bomb disposal vehicles. The vehicles contain a state-of-the-art bomb containment sphere which is designed to absorb the deadly pressure and fragmentation of an explosive device. Each truck also contains a bomb disposal robot and a bomb protection suit. When combined with other render safe equipment on the truck, the response package provides a variety of low-risk alternatives for a render safe operation. All of the equipment is designed for use during the critical time between detection of the bomb and detonation. The technology applies to initial assessment of the improvised explosive device, remote removal or on-site disruption. This equipment is available to augment public safety bomb squad or military EOD equipment at special events.

(3) All SA bomb technicians are trained in the use of

general bomb disposal equipment, such as x-ray machines and disrupters. |Bomb Data Center| and HDS personnel also train on the use of more technical bomb disposal equipment.

EFFECTIVE: 04/07/97

13-16.9.9 |Deleted|

EFFECTIVE: 04/07/97

13-16.9.10 Requests for Assistance

(1) All direct operational support performed by the ||Materials and Devices Unit| must be in response to requests made by the SAC and coordinated with the Criminal Investigative Division.

(2) Laboratory Division personnel and equipment as well as field SA bomb technicians can provide assistance in the following situations wherein the use of explosives might be anticipated:

(a) Major Case - When situation involves FBI or Task Force jurisdiction, raid or arrest planning should include the availability of the local public safety bomb squad or military EOD units (Note Posse Comitatus restrictions on military seizure or processing of evidence). If other agency support is not feasible, SAC may request FBIHQ assistance.

(b) Special Event/Major Case - Local or state law enforcement is usually the lead agency in physical security matters with FBI jurisdiction aligned with terrorism possibilities. Public safety bomb squad may request priority training assistance at HDS or in a regional seminar. Technical support for the principal bomb squad may be requested through the local SAC and FBIHQ.

EFFECTIVE: 04/07/97

13-17 DOCUMENT EXAMINATION |(See MIOG, Part I, 7-14.9 (1) and NFIPM, Part 1, 7-6.1.)|

Document examination consists for the most part of a side-by-side comparison of handwriting, typewriting, and other written and printed |items| to establish |origin or authenticity. In addition to |submitting documents for document examinations, consideration should always be given to submitting them for latent fingerprint examinations (see Part II, Section 15 of this manual). |Latent| fingerprint examinations |are conducted, if requested, |after the original document has been photographed and the requested document examinations have been conducted.

EFFECTIVE: 07/25/97

13-17.1 Conclusions

Conclusions are positive and reliable when the examinations are conducted by competent experts. (Note: Age, sex, character, etc., cannot be determined in handwriting. Pseudoexperts in this field, "graphologists" or "graphoanalysts," purport to have this ability, but have no scientific validity.)

EFFECTIVE: 07/25/97

13-17.1.1 |Identification

This conclusion is a definitive conclusion stating to the exclusion of all other sources.|

EFFECTIVE: 07/25/97

||13-17.1.2| "No Conclusion" Examinations

In some document examinations, a "no conclusion" is |reached as opposed to an|"identification"|or|examination|conclusion. Some of the reasons for a "no conclusion" are:

(1) Limited questioned material

(2) Inadequate known material

(3) Lack of contemporaneous standards (long interval of time exists between the preparation of the questioned and known material)

(4) |Distortion/disguise|(definite conclusions often impossible)

(5) Lack of sufficiently identifying characteristics (although ample quantities of both questioned and known samples are available)|and/or|

|(6) Elimination of a suspect source.|

EFFECTIVE: 07/25/97

13-17.2 Documentary Evidence

All efforts must be made to maintain and preserve documentary evidence in the same condition as it was received. This evidence must not be folded, torn, tampered with, marked or touched unnecessarily, stamped, soiled, subjected to indented writing, mutilated, etc. Each item of evidence should be placed in a separate envelope/container. Photocopies should be placed in paper rather than plastic envelopes as photocopies often stick to plastic mutilating the document.

EFFECTIVE: 07/25/97

13-17.2.1 Marking for Identification

|Evidence will be marked according to FBI Laboratory policy.|

EFFECTIVE: 07/25/97

13-17.2.2 Original vs. Photocopy

The original evidence itself rather than a photocopy (copy made with a photocopier machine) should be submitted because many examinations can be|conducted|only on the original. Also, the original is utilized by the examiner to prepare court exhibits. |Limited|examinations, however, can be made using good quality photographs of the original evidence. A photocopy is normally satisfactory for file searches. In no case should the inability to forward the original evidence constitute a valid reason for not requesting an examination.

EFFECTIVE: 07/25/97

13-17.2.3 Obtaining Known Handwriting Samples (See|MIOG, Part I, 87-5.2, 91-17.1.5; Part II,|13-6.7 (44).)

The following guidelines are to be used to obtain known handwriting and/or hand printing samples from a person (writer).

(1) Reproduce the original conditions as nearly as |possible, the same text,|size of paper, size of writing, space available for the writing, type of writing instrument, etc. |Should always try to duplicate. Obtain the full text of the questioned writing in word-for-word order at least once, if possible. Signatures and less extensive writing should be prepared several times, each time on a different piece of paper. In hand printing cases, both upper case (capital) and lower case (small) samples

| should be obtained.|

(2) Obtain samples from dictation until it is believed normal writing has been produced (the number of samples necessary cannot be determined in advance).

(3) Do not allow the writer to see either the original document in question or a photograph thereof prior to or during the taking of the samples.

(4) Remove each sample from the sight of the writer as soon as it is completed.

(5) Do not give instructions in spelling, punctuation or arrangement.

(6) |Deleted|

|(7)| In forgery cases the Laboratory should also be furnished with genuine signatures of the person whose name is|allegedly|forged.

|(8)| Obtain samples with both the right and left hands.

|(9)| Obtain samples written rapidly, slowly, and at varied slants.

|(10)| Obtain samples of supplementary writings such as sketches, drawings, manner of addressing an envelope, etc.

|(11)| Writer should initial and date each page.

|(12)| Witness each sample with date and initials|(and| name).

|(13)| Deleted

|(14)| If readily available, samples of undictated writing should be obtained, such as application for employment, social or business correspondence, school papers,|canceled checks,|etc.

EFFECTIVE: 07/25/97

13-17.2.4 Obtaining Known Typewriting Samples (See MIOG, Part II, 13-6.7(64))

The following guidelines are to be used to obtain known typewriting samples.

(1) If the typewriter is equipped with a carbon film ("one-time") ribbon, remove the ribbon prior to taking exemplars and submit it to the Laboratory whenever available.

(2) Obtain a full word-for-word text of the message in question using as nearly as possible the same degree of touch as used in the questioned text.

(3) Obtain at least two samples of the complete keyboard (all letters, numerals and symbols both upper and lower case).

(4) Obtain pertinent identifying data regarding the typewriter (make, model, serial number, etc.) and type this data as well as information such as the date sample was obtained, name of person taking the sample, where the typewriter was located, etc., on the sample.

(5) Obtain data, if available, regarding when the machine was last serviced or repaired.

(6) Properly witness each sample (initial and date on reverse side).

(7) If the typewriter uses a cloth ribbon also obtain a stencil sample as follows:

(a) Physically remove the cloth ribbon from the typewriter or mechanically move it by placing the ribbon mechanism in the stencil position

(b) Place a piece of carbon paper over a piece of ordinary paper and insert them both in the typewriter

(c) Begin typing and allow the faces of the type to strike the carbon paper directly, and

(d) Submit the stencil sample, which is the typed text on the ordinary paper, to the Laboratory. (A stencil sample gives very clear impressions of the typefaces.)

(8) If the typewriter contains no ribbon and one is not readily available, obtain a stencil sample by following steps (b) through (d) above.

EFFECTIVE: 07/25/97

13-17.2.5 Obtaining Known Photocopy Samples

The following guidelines are to be used when obtaining known samples from photocopy machines.

(1) Obtain at least 10 samples with no document on the glass plate and the cover down.

(2) Obtain at least 10 samples with no document on the glass plate and the cover up.

(3) Obtain at least 10 samples with a document on the glass plate and the cover down.

(4) Identify each sample as to make, model, and conditions under which sample was made.

(5) On the transmitting communication to the Laboratory, if possible, list any of the following information that can be obtained from the known photocopy machine:

(a) Toner - Locate toner supplies and record toner components, manufacturer, and descriptive information

(b) Paper - Sheet or Roll fed

(c) Options

1. Color - Determine if the machine has optional color capabilities and what colors are available

2. Editor - mask and trim, or editor board

3. Reduction, enlargement, and zoom

EFFECTIVE: 05/11/87

13-17.3 Requesting Examinations

When a document examination is desired, follow the instructions in paragraph 13-3.1 (Requests for Examination of Evidence) elsewhere in this section, and include in the requesting communication the following:

(1) Which of the submitted items are the questioned and the known specimens

(2) Which questioned items are to be forwarded for latent fingerprint processing, and

(3) Personal characteristics of the writer, such as any nervousness, disability, illness, injury, etc.

EFFECTIVE: 07/25/97

13-17.4 Types of Document Examinations

(1) Handwriting (script)

(2) Hand printing

(3) Signature

(a) If a traced signature, try to locate the document containing the pattern or master signature from which traced.

(b) If a simulated or copied signature, include samples of genuine signatures to determine the extent of simulation.

(c) If a freehand signature, the forger has no knowledge of how the genuine signature looks.

(4) Typewriting

(a) [redacted] b2 b7E

[redacted] b2|b7E

(b) An examination of questioned typewriting can assist in determining a possible make and model of typewriter|and/or typewriting element|used to prepare the material.

(c) Questioned and known typewriting specimens of the same size and style of type cannot be identified unless individual defects or wear characteristics are exhibited in the samples.

(5) Paper

(a) Definite identification is seldom possible.

(b) Consideration should be given to indented writing, watermarks, tool or knife marks along the edges, whether the paper was torn in a manner to leave stubs in a tablet, and whether torn edges are suitable for comparison with torn edges on a source item.

(c) Some paper examinations are partially destructive and will not be conducted unless specifically advised.

(6) |Paper-fiber transfer

An examination of the original document must be conducted with the suspect carbon film typewriter ribbon to determine whether or not the typewriter ribbon was utilized in the preparation of the questioned document.|

|(7)| Writing instruments (pencils, pens, crayons, ball-point pens)

|(8)| Checkwriters

(a) Examination of checkwriter impressions assists in determining the manufacturer of the machine used to produce the impressions.

(b) Positive identification of questioned with known samples is infrequent because the construction of checkwriting machines inhibits the development of unique identifying defects and wear characteristics.

|(9)| Printing, photocopying, and other duplication

processes

(a) Printed documents may be associated as originating from a common source or may be identified with known printing paraphernalia.

(b) Photocopies may be associated as originating from the same source or may be identified with a particular machine.

|(10)| Indented writing

(a) Photographic, electrostatic, and lighting techniques are used to determine the context of indented notations.

(b) The document should not be folded or creased.

(c) Care should be taken to ensure accidental indented writings are not made in a document after its collection as evidence.

|(11)| Obliterated or eradicated writing

(a) Nondestructive methods include photography, using ultraviolet and infrared techniques, and microscopic examination.

(b) Staining methods may produce minor stains. The Laboratory should be advised whether minor staining may be applied.

|(12)| Used carbon paper

(a) Carbon paper should not be folded or creased.

(b) Examination may disclose the context of handwritten or typewritten material pertinent to an investigation.

|(13)| Burned or charred paper (See MIOG, Part II, 13-6.7.)

(a) Questioned entries on charred or burned paper may be|observed|with appropriate examination.

(b) Charred paper should be protected by a polyester film encapsulation method or shipped to the Laboratory in the original container in which it was burned at the crime scene. Contact the Laboratory for more specific instructions.

(c) If above options are not feasible, ship the charred paper between layers of cotton in a rigid container.

|(14) Dating| of a document

(a) May be based on watermarks, letterhead or other printing, and typewriting.

(b) Determination of exact dating is |highly unlikely; however, it is possible to determine when items became commercially available.|

|(15)| Wet documents

(a) Material should be frozen before shipping items to the Investigative Operations and Support Section.

(b) Freeze-dry methods of preservation will permit items to dry and reduce risk of decomposition.

|(16) Deleted|

EFFECTIVE: 07/25/97

13-17.5 |Standards Files (Containing Known Standards Supplied by Manufacturers and/or Gathered by FBI Employees)|

(1) |Office Equipment File|

(a) Consists of original samples of |typewriting, photocopy machines, printers, and facsimile machines, from both foreign and domestic countries.|

(b) |Portions of this file permit| classification of questioned| printed material| on the basis of make and model.

(2) Watermark Standards

(a) An index of watermarks and brands used by paper manufacturers.

(b) Aids in tracing source or origin of paper.

(3) |Deleted|

(4) Checkwriter Standards

(a) Collection of original checkwriter impressions.

(b) Permits classification of questioned checkwriter impressions as to make and model.

(5) Shoe Print and Tire Tread Standards |(See MIOG, Part II, 13-19.1.5.)|

(6) National Motor Vehicle Certificate of Title File

See 13-17.6(4) of this section for further information.

(7) |Deleted|

EFFECTIVE: 07/25/97

13-17.6 |Reference Files - Material Collected Through Casework|

(1) NATIONAL FRAUDULENT CHECK FILE

(a) Contains computerized and|copies of|samples of checks, writings, and other documentary material used by persons involved in fraudulent check schemes.

(b) Assists in identifying individuals involved in fraudulent check schemes and associates questioned material in various cases as having originated from a common source.

(c) A search through the file will be made even though the questioned material was previously searched through a check file maintained by a state or local agency, or technically examined by another agency.

(2) ANONYMOUS LETTER FILE (See MIOG, Part I, 91-17.2.)

(a) Consists of a|computerized|reference collection,

including digitized copies of notes and extortion and threatening letters. The criteria for an Anonymous Letter File search is as follows:

1. Kidnapping

2. Bomb threats

3. Case of the times (Abortion Clinics, Church Burnings, etc.)

4. Threats to Federal Officials

5. Contamination Issues.

(b) Assists in identifying the source of such questioned material and associates questioned material in various cases as having originated from a common source.

(c) Letters of domestic abusive or "crank" nature are neither searched nor added to the file, unless mitigating circumstances so warrant.

(d) Letters determined to be of no prosecutive value are not to be submitted to the Laboratory, unless mitigating circumstances so warrant.

(3) BANK ROBBERY NOTE FILE (See MIOG, Part I, 91-17.1.)

(a) Consists of computerized and digitized copies of writings of known bank robbers, of holdup notes found in the possession of known suspects and of notes used in actual holdups, or attempted holdups, of banks and other establishments.

(b) Assists in identifying questioned notes with known writers and associates questioned notes in various robbery cases as having originated from a common source.

(c) Notes and miscellaneous questioned writings found on counters and wastebaskets in banks which are obviously the work of mischief or prank will NOT be searched, and will NOT be added unless mitigating circumstances so warrant.

(4) NATIONAL MOTOR VEHICLE CERTIFICATE OF TITLE FILE (See MIOG, Part II, 13-17.5 (6).)

(a) Consists of a questioned section comprised of copies of counterfeit and/or altered motor vehicle titles, by state, utilized in the transfer or sale of a stolen motor vehicle.

(b) Consists of a known section comprised of authentic motor vehicle titles from each state.

(c) Assists in identifying counterfeit titles as having originated from a common source.

(d) Will provide a known standard for a determination to be made as to the authenticity of a questioned title.

(5) Deleted

(6) Deleted

EFFECTIVE: 07/25/97

13-18 PHOTOGRAPHIC EXAMINATIONS (MOVED TO 13-7.6)

EFFECTIVE: 07/25/97

13-18.1 Deleted

EFFECTIVE: 07/25/97

13-18.2 Deleted

EFFECTIVE: 02/12/92

13-18.3 Deleted

EFFECTIVE: 02/12/92

| 13-18.4 |Deleted|

EFFECTIVE: 02/12/92

| 13-18.5 |Deleted|

EFFECTIVE: 02/12/92

13-19 SHOE PRINT AND TIRE TREAD EXAMINATIONS

EFFECTIVE: 02/12/92

| 13-19.1 How to Collect|the|Physical Evidence |(See MIOG, Part II, 10-3, 13-6.4.6.)|

| Shoe|and tire tread impression|evidence found at the scene of a crime provides important evidence for investigation and eventual prosecution of the case. All impressions should first be photographed. The|evidence or item bearing the|original impression should then be transmitted to the Laboratory, if|possible. This is easily possible in cases when the impression is on broken glass, paper, or on another surface which can be removed from the crime scene; however, it should also be seriously considered and extended to bulkier items such as doors, pieces of flooring, etc., particularly in violent crimes. If the original imprisoned item cannot be removed from the scene and transmitted to the Laboratory, examination quality photographs, followed by casting or lifting techniques should be made to complete the recovery of that evidence. These techniques are described below.|

13-19.1.1 Photographing and Documenting the Evidence (See MIOG, Part II, 13-6.4.6.)

(1) GENERAL CRIME SCENE PHOTOGRAPHS AND NOTES

General crime scene photographs are those which are taken from various distances and angles to capture the general appearance of the scene and to document certain facts about the scene. When taking general crime scene photographs of a shoe or tire impression, they should include both|long-range, mid-range and close-range|color photographs of the evidence. ISO 200 or 400 color film should be used. These photographs should be taken to create a zoom-in effect to show the relationship of the impressions to the surrounding area. THESE PHOTOGRAPHS ARE NOT SUITABLE FOR DETAILED FOOTWEAR OR TIRE EXAMINATIONS.

(2) EXAMINATION QUALITY PHOTOGRAPHS

Examination quality photographs are those which are taken from directly over the impressions utilizing a tripod, a scale and special lighting. The purpose of these photographs is to take a photograph which can be enlarged to the natural size via the scale and which reflects a high degree of|detail. THESE PHOTOGRAPHS ARE USED FOR FORENSIC EXAMINATIONS.|

The following is a procedure list for taking examination quality photographs:

(a) USE A SCALE IN EVERY EXPOSURE. Position a finely divided and accurate scale, such as a flat metric ruler, next to and on the same plane as the impression. A label may be placed in the picture to identify which impression you are photographing, in order to associate the photograph to the general crime scene photographs, crime scene sketches, etc.

(b) USE|A QUALITY|CAMERA. The camera should ideally be a larger format camera; however, suitable photographs can be taken with a|MANUAL FOCUS|35 mm camera if proper procedures are followed. The camera should be equipped with a normal macro|lens or a zoom lens in the 35-80 mm range.| Load the camera with fine-grained color or black and white|ISO 125 film. Check the ISO setting on the camera if the camera does not adjust to it automatically.| Attach a

cable shutter release if needed.

(c) Adjust the height and position of the camera on a tripod and position it directly over the impression so that the shoe impression and ruler nearly fills the frame. Make sure the film is parallel to the impression's surface, i.e., the lens is perpendicular to the impression.

(d) Determine what special lighting will be used. In most cases, oblique lighting should be used.

(e) For oblique lighting, a 6-foot flash extension cord must be used so that the flash can be held about 4-5 feet from the impression. This distance will allow for an even exposure across the impression. For a two-dimensional impression, such as a dust impression on a bank countertop, the flash should be positioned about 4 feet away from the impression but only about 1 inch above the surface the impression is on so that the light will graze the impressioned area. For a three-dimensional impression, first decide what the height of the flash should be for the impression. The deeper the impression the higher the flash. The more shallow the impression, the lower the flash. The purpose of the oblique light is to lighten the higher areas of the impression while shadowing the lower depressed areas of the impression, thus providing increased contrast between the two. Block out any bright ambient light, particularly if the impression is outside in daylight. This can be achieved by draping a black cloth around part of the tripod or simply having someone hold the black cloth or a piece of cardboard or position their body next to the impression to block out the light and darken the area being photographed. This is very important and will maximize the benefit of the oblique light and result in much greater contrast and detail in the photograph. Several photographs with the oblique flash should be taken from at least three different sides of the impression. Always use a scale!

(f) For three-dimensional impressions, close down the f-stop to f-22 for greater "depth of field." Always make sure the camera is set on flash synchronization.

(g) ALWAYS FOCUS THE CAMERA! FOCUS THE CAMERA ON THE IMPRESSION, NOT THE SCALE, PRIOR TO EACH EXPOSURE. Use a cable shutter release or the camera timer to prevent movement of the camera during exposure.

(h) Take several exposures at each position, varying the light position, particularly if you feel this impression

is a difficult one to photograph.

(i) TAKE SEVERAL PHOTOGRAPHS OF EACH IMPRESSION.

(3) PHOTOGRAPHIC EQUIPMENT KIT CHECKLIST

Having a photographic kit prepared in advance, will help result in the proper photographic treatment of the evidence. Below is a list of items which should be included in a crime scene kit to cover both the needs of general crime scene photography and "examination quality" photography:

Camera(s) with manual focus and interchangeable lenses. Macro or zoom lens or wide angle lens for general crime scene photos. Cable shutter release. Electronic flash. Long "Flash Extension Cord" (6 feet). Light meter (for incident light as well as flash). Device for checking focus (focus loop or macro focus aid). Tripod (preferably the inverted type). Fine-grained black/white and color films (ISO 125 or less). Color film for general crime scene (200-400 ISO). Scale (rigid and flat ruler, at least 6 inches long). Labels and writing instruments. Numbered cones or markers for general crime scene. White chart board for backfill lighting. Black cloth or screen for ambient light shield. Lens filters.

EFFECTIVE: 07/25/97

13-19.1.2 Casting Three-Dimensional Shoe and Tire Impressions
(See MIOG, Part II, 13-6.4.6 and 13-6.7 (56).)

Casting is the filling of a three-dimensional impression, usually in soil, sand or snow, to capture the maximum amount of detail in that impression for examination purposes. DENTAL STONE with a PSI rating of 8,000 or more should be used for casting footwear and tire impressions. Dental Stone (or Die Stone), available through local dental supply houses, having a minimum PSI of 8,000 or above, preferably colored, is the desired casting medium. The PSI is a compression strength measurement which should be listed on the container along with the proper ratio of powder to water which should be used for mixing. There is no need to buy premixed or modified dental stone from forensic suppliers, some of which have not been satisfactory.

NOTE: Plasters, plaster of paris or dental plasters are NOT

SUFFICIENTLY HARD, do not resist abrasion when they are cleaned and, therefore, should NOT be used.

(1) ZIP-LOCK BAG METHOD FOR DENTAL STONE CASTING

(a) "Zip-lock" bags are highly recommended as a means of conveniently storing premeasured amounts of dental stone powder. A zip-lock bag measuring approximately 8 by 12 inches can easily store 2 pounds of dental stone material. Each footwear impression normally can be cast with 2 pounds. With several premeasured zip-lock bags stored and on hand, the casting of impressions at the crime scene will only involve the addition of a few ounces of water to each bag as needed. The bag can be used to both mix and pour the dental stone mixture. Those who have tried this method have found that it is a quick, clean, and convenient method of casting.

(b) Dental stone, like other gypsum materials is usually sold in quantities of 25, 50, or 100 pounds. By obtaining a source of zip-lock bags, approximately 8 by 12 inches in size, these larger containers of dental stone can be quickly divided into 2 pound portions in each bag. The bags can be laid on their side and flattened out to remove the excess air and zipped closed. The bags will keep the casting material dry and will be convenient to use when needed.

(c) When the time comes to prepare a cast, the preprepared zip-lock bags of dental stone are ready and conveniently available. To reach the necessary viscosity, dental stone requires approximately 5 to 6 ounces of water per pound. Die stone will require even less water. For a 2 pound bag of dental stone, approximately 9 to 10 ounces of water will need to be added. This can be conveniently done by utilizing a 12 ounce soda can or other measure. Since the exact amount of casting material will vary slightly from bag to bag, and the powder-to-water ratio will vary slightly from one brand of dental stone or die stone to another, the following procedure is recommended. Pour about two thirds of the estimated water needed into the bag. Allow the water to soak into the dental stone for two minutes. Zip the bag closed and mix the casting material by massaging and gently squeezing the bag. If more water is needed, add an ounce of water and continue to mix the material. Make sure that all of the material in the corners of the bag is mixed. If too much water is accidentally added, simply add a small amount of dental stone from another bag. The proper viscosity should be that of pancake batter or thick cream. The mixture should not be watery nor should it be so thick that it won't flow into an impression. When the

water and dental stone are completely mixed and the proper viscosity is reached, the casting material is ready to be poured. This is easily accomplished by unzipping the bag and, holding it at ground level next to the edge of the impression, and carefully pouring the material into the impression.

(d) The zip-lock bag method has proven to be a very popular one and provides a convenient, clean and rapid way of preparing a quality cast. If more than one cast is being prepared, the person conducting the casting can solicit the help of other individuals to assist in the mixing portion of this process.

(2) MIXING DENTAL STONE IN A BUCKET

Although the zip-lock bag method is distinctly favorable for footwear impressions, the normal size of most tire tread impressions would necessitate the mixing of larger amounts. If a large quantity of dental stone is to be mixed at one time in a bucket, such as for a tire impression, the quantity of powder to water should first be determined. For instance, if 10 pounds of dental stone identical to the aforementioned example is used, where every 2 pounds of dental stone required 9.6 ounces water, 10 pounds would require 48 ounces of water. The water should first be added to the bucket and then the dental stone should be sifted into the water. The mixture should be stirred thoroughly when adding the powder and continuously for at least three minutes. Once the material is thoroughly mixed, the material can be poured into the impressioned area.

(3) POURING THE CASTING MATERIAL

(a) Whether a form is used or not and whether the casting material is mixed in zip-lock bags or in buckets, the procedure and precautions for pouring the casting material into the impressioned area are the same. Casting material has sufficient weight and volume to easily erode and destroy valuable detail if it is carelessly poured directly onto the impression. This is especially true in the case of fragile soil and sand impressions. When pouring the casting material from the zip-lock bags, the bag should be placed next to the impression so that the casting material does not cascade onto the impression, but instead, falls on the adjacent ground after which it will flow into the impression. When pouring the material from a bucket into the impression, a flat stick or a spoon should be held over an area to the side of the impression. The casting material can be poured from the bucket onto the stick or spoon in a way so that the spoon or stick will absorb the impact of the dental stone which will then flow harmlessly into the impression. With impressions which

are on a slope or with impressions which have forms around them, the casting material could be poured from the bucket onto the higher ground next to the impression in a way so that the casting material would then naturally flow into the impression. Again, it should be emphasized that the entire impression must be filled with casting material until it has OVERFLOWED.

(b) Sometimes when mixing large amounts of dental stone in a bucket the viscosity of the dental stone may be ideal at the beginning of the pour but too viscous by the end of the pour. This is due to the settling of the mixture. Making sure the dental stone and water are thoroughly mixed immediately before pouring each impression can help offset this.

(c) Occasionally, whether the dental stone mixture is in a bucket or a bag, it is not apparent that the mixture is too viscous until it has been actually poured. Of course, then it is too late to change the mixture. The viscous mixture can be encouraged to flow into the impression simply by taking your finger or a small stick and vibrating it back and forth on the surface of the mixture. This will help the dental stone to relax and flow into the impression. Be careful not to put the stick or finger more than about 1/4 inch below the surface of the casting material as it might damage the impression.

(d) Before the cast completely hardens, it is possible to scratch the date, your initials and other needed information onto the back side of it. An alternate way of identifying the cast is to set a paper clip into the back of the cast before it sets. When the cast sets, an identifying tag can be attached to the paper clip.

(e) The cast should then be left undisturbed for at least 20 to 30 minutes in warm weather. If the temperature is cold, the cast should be allowed to sit considerably longer. Many casts have been destroyed or damaged because they were lifted too soon. When the time has come to lift the cast, care should be taken so as not to damage it. If the cast has been poured in sand or loose soil, it should lift very easily. Casts which are poured in heavier soils such as mud or clay, may require more careful treatment when being lifted.

(f) Allow the cast to air dry for AT LEAST 48 HOURS before cleaning it. It does not reach its total hardness for 24 to 48 hours.

(4) CLEANING A DENTAL STONE CAST

Cleaning a dental stone cast should be left to the examiner after drying for 48 hours and thoroughly attaining maximum hardness. Dental stone casts made in sand or light soil can be cleaned simply by using water and a soft brush. Those casts poured in heavy clay soils which adhere to the cast surface can be cleaned by submerging the cast in a saturated solution of potassium sulfate for about 30 - 60 minutes. This will assist in the removal of soil from its surface. A soft brush can be carefully used to help free stubborn soil. Afterwards, rinse the cast thoroughly in water and then allow the cast to thoroughly air dry.

EFFECTIVE: 07/25/97

13-19.1.3 Lifting Two-Dimensional Impressions from Surfaces
(See MIOG, Part II, 13-6.7 (61).)

Lifting an impression allows for the transfer of a two-dimensional residue or dust impression to a lifting film giving it greater contrast. It also allows for it to be transported to the laboratory and photographed.

Lifting can be accomplished with an electrostatic lifting device (useful for dry impressions of dry origin), with gelatin lifting materials (useful for both dry and wet origin impressions) and adhesive lifting materials (used only for lifting impressions which have been developed with fingerprint powder and which are on nonporous surfaces).

(1) ELECTROSTATIC LIFTING DEVICE FOR LIFTING DRY RESIDUE IMPRESSIONS

(a) With the electrostatic lifting device, footwear impressions can be lifted from virtually any surface, both porous and nonporous. The device works best on DRY DUST OR DRY RESIDUE FOOTWEAR IMPRESSIONS WHICH ARE ON SURFACES THAT ARE RELATIVELY CLEAN. For impressions which fall into that category, the lifting device is excellent at lifting footwear impressions. If the impressions were wet when they were made or if they become wet or damp prior to lifting, the electrostatic lifting device WILL WORK POORLY OR NOT AT ALL. It is important to understand that THE ELECTROSTATIC LIFTING DEVICE IS USEFUL FOR DRY IMPRESSIONS AND NOT IMPRESSIONS OF WET ORIGINS. It is also important to remember that impressions which do

not lift are NOT destroyed. Therefore, in cases where it is unknown whether an impression is of wet or dry origin, the use of the electrostatic lifting device will not risk the loss of or damage to the impression.

(b) It has always been a difficult, if not impossible, to successfully photograph and retrieve certain types of dust and residue footwear impressions, particularly if the impressions were on a surface where contrast was poor, on textured surfaces or in instances where the impressions were either latent or were barely visible. The electrostatic lifting device now makes it possible to both locate and retrieve footwear impressions of this type which have been previously overlooked, ignored, or lost in unsuccessful attempts to retrieve them. In fact, it may also be used to lift totally latent impressions from surfaces where it is suspected footwear impressions may be present even though they cannot be seen. It is therefore an excellent crime scene device which can be used to make a "blind search" of areas where it is likely that the suspect walked and therefore could potentially contain latent but retrievable dry residue impressions.

(c) The best way to familiarize oneself with the usage, applications and limitations of the electrostatic lifting device is to try a variety of lifting procedures on a variety of both dry and wet origin impressions and on a variety of surfaces. Equipped with this knowledge and experience, the use of the electrostatic lifting device at crime scenes and in laboratory casework becomes an easy routine.

(d) Not all dry impressions can be "successfully" lifted. Attempts to lift residue footwear impressions on a dirty surface which itself contains loose residue will result in both the impression and the background residue being lifted together. The lifting film will be covered with residue and the footwear impression will be lost in it. However, if the shoes of the suspect are damp or sticky|and walk|through a dirty surface, it may be possible to detect "negative" impressions where the residue on the surface was removed and adhered to the shoe and the negative image of the shoe|sole| remained.

(2) PROCEDURE FOR USING ELECTROSTATIC LIFTING DEVICES

Most electrostatic lifting kits will be accompanied by instructions; however, some basic instructions are supplied here. To lift an impression with the electrostatic lifting device, the following procedures should be used:

(a) POSITION THE GROUNDING DEVICE

The ground wire of the electrostatic lifting device must be attached to the ground plate or other grounding material. The ground plate should be positioned as follows:

1. If at all possible, position the ground plate beneath the impressioned item. This would be the best choice in the case of impressions on paper, loose carpeting, and other movable items. Since the lifting film may be larger than the impressioned item, a piece of clear chart board or similar nonconductive material must be used as a separator and should be placed between the impressioned item and the ground plate to keep the lifting film separated from the ground plate. If the metal laminated layer of the lifting film is in contact with the ground plate, arcing will occur and the device will not work.

2. Very often the impression will be on a surface, such as a tile floor, where the ground plate cannot be placed beneath the impression. In those instances, position the ground plate at least 2 inches away from the lifting film and with the metal side of the ground plate facing the ground or surface.

3. If the impressioned item is on surfaces such as a door, chair seat, etc., place the ground plate in the best position to be most effective. In the case of a door, the ground plate can be taped to the rear side of the door with the metal side facing the impression. In the case of the chair, it can be taped alongside the impression on the chair or beneath the seat. To be most effective, the metal side of the ground plate should be in maximum contact with the adjacent surface whenever possible.

4. Occasionally, the footwear impression will be on a metal object such as a car hood, metal cabinet or other metal object. In those cases, the ground plate can be used or the ground lead can be attached directly to the car frame or metal object. ON METAL SURFACES AN ALTERNATE PROCEDURE SHOULD BE USED FOR THE PLACEMENT OF THE LIFTING FILM. (SEE STEP #2 IN (b) BELOW.)

After positioning the ground plate, attach one end of the ground wire to it or in the case of a metal object, connect the ground lead to that object. Plug the other end of the ground lead into the voltage source.

(b) PREPARE AND POSITION THE LIFTING FILM OVER THE

IMPRESSION

1. Position a piece of lifting film over the impression with the black side facing against the impression. The black side will face down and the metal laminated side will face up. The placement of the lifting film should be handled carefully so as not to disturb or smear the impression. NEVER slide the lifting material over the surface. The lifting film should not touch any part of the ground plate. It may be necessary to place a piece of clean chart board between the impressioned item and the ground plate or to make other adjustments so that the film and ground plate are not in contact with one another.

2. In cases where the impressioned surface is metal, carefully place a piece of clear, very thin (1 or 2 mil) mylar or polyester over the impression. Then place a slightly smaller piece of lifting film, black side down, over the mylar. The mylar should be bigger than the lifting film to assure that none of the black lifting film is touching the metal surface. Continue with the lifting procedure as outlined; however, remember that the lifted impression will now be on the mylar. The mylar and the black lifting film can be lifted and kept together to provide the necessary contrast.

3. The electrostatic lifting of some impressions, particularly those which are latent or which may not be detectable until after lifting, can leave the crime scene technician with a lifted impression which can no longer be oriented as to its direction in the crime scene. It has been suggested that marking the lifting film and the impressioned surface will later facilitate the orientation of the lifted impression. The need for this step should be considered prior to making any lifts.

(c) PLACE THE PROBE ON THE LIFTING FILM

1. The tip of the hand-held probe should be held in contact against an edge of the metal laminated backing of the lifting film. There is no need to move the probe around during the charging of the film. It should remain in contact with the film during the entire procedure. THE VOLTAGE CAN NOW BE TURNED ON. It is usually only necessary to turn the voltage on a low setting although in cases where the current must travel through thicker materials, a higher setting will be required. The application of sufficient voltage will cause the lifting film to be pulled down tightly against the impression. In some instances air bubbles will be trapped beneath the film. These will often disappear in a few seconds. If any air bubbles remain trapped beneath the film they may be rolled out with a

clean fingerprint roller or brayer. This should be done very gently by lightly passing the roller over the film. The weight of the roller is all the pressure that should be used. Excessive pressure while rolling the film may damage the impression. If arcing occurs between the film and the ground, either the power is set too high or part of the lifting film is touching or too close to the ground plate.

2. After the power is turned off, allow the probe to remain in contact with the film for approximately five seconds for the purpose of discharging the film. When this is done, the film can be seen to relax as the charge leaves it.

(d) REMOVE THE LIFTING FILM

1. The film can now be removed from the impressioned area by carefully peeling it off from one end to the other. Once the film is removed, lay it on a clean flat surface with the black side facing up. In a totally dark room examine the film carefully with oblique light to see if an impression has been transferred to it. If this is not possible at the crime scene, then all lifts should be saved until they can be examined in TOTAL DARKNESS. Film should never be discarded without first CAREFULLY EXAMINING THE FILM IN A DARKENED ROOM WITH THE AID OF A STRONG OBLIQUE LIGHT. Many times, film which is viewed in ambient lighting or without a strong oblique light source will initially appear to contain no impressions. Further examination of that film in total darkness with a strong oblique light often reveals the presence of valuable impressions.

2. Often many residue impressions are so heavy that the first lifting process actually results in a lifted impression with too much residue. In those cases, a second lift of the same impression should be made as it sometimes results in an impression which appears clearer and much better for examination.

(3) STORAGE OF THE LIFTING FILM AFTER LIFTING

(a) Lifted impressions are fragile and can easily be damaged if the film is not secured. The film often contains a residual charge which can attract other dust and debris or cause the film to cling to another surface. For that reason, the lifting film should be protected immediately after being removed from the impression.

(b) To properly preserve and store the impressioned item or lifting film containing an impression, it should be stored

securely in a folder or in a shallow photographic paper box. Do not use pizza boxes or similar low-grade cardboard or cardboard boxes as the residual charge on the lifting film will pull dust from the cardboard and interfere with the lifted impression. If a folder is used for the film, place the film on one side of the folder and secure it with a piece of tape. If the film should slide around in the folder or is pulled out of the folder while it is closed, the delicate lift will be damaged. Whenever the lift must be removed, the folder should be opened first, followed by removal of the lift. When a shallow box is used, the impressioned item or lift can be taped securely into the bottom of the box.

(c) Items which contain a dry residue footwear impression SHOULD NEVER BE WRAPPED IN PLASTIC OR STORED IN A PLASTIC BAG. If they are, a partial transfer of the impression to the plastic will take place.

EFFECTIVE: 07/25/97

| 13-19.1.4 |Other Enhancement/Recovery Considerations

| Specialized photographic, physical and chemical enhancement techniques may be utilized in the Laboratory for all types of impressions, providing the original impressioned item can be removed from the scene and submitted to the Laboratory.|

EFFECTIVE: 04/07/97

| 13-19.1.5 Laboratory Examinations |(See MIOG, Part II, 13-17.5.)|

(1) Footwear Computer Database Collection

Extensive footwear design and reference materials are maintained in the Laboratory to assist in determining the manufacturer of a particular shoe or tire design.

(2) If known shoes or tires of suspects are obtained and transmitted to the Laboratory along with the questioned impression

evidence, the Laboratory can make forensic comparisons and can determine:

(a) If the suspect's shoes or tires correspond in design and size with the questioned impressions.

(b) If the suspect's shoes or tires correspond in wear and other identifying characteristics allowing for A POSITIVE IDENTIFICATION.

(c) That the shoe or tire designs can be eliminated.

EFFECTIVE: 07/25/97

13-20 |RACKETEERING|RECORDS ANALYSIS

EFFECTIVE: 05/25/90

13-20.1 Types of Specialized Assistance and Examinations Available

EFFECTIVE: 05/25/90

13-20.1.1 Bookmaking/Numbers Operations

Analysis and interpretation are made of handwritten and printed systems of recording wagering on sports events; policy and numbers betting based on horse and dog racing, stock market data, drawn numbers, etc. Testimony is given concerning interpretation of records and/or manner of conducting such gambling operations and terminology.

EFFECTIVE: 05/25/90

13-20.1.2 Loan Sharking (Shylocking) Records

Analysis of accounting-type notations to determine amount of outstanding loans, amounts paid in accrued interest and principal, total number of loans, and true annual rate of interest computed by the actuarial method.

EFFECTIVE: 05/25/90

13-20.1.3 Prostitution

Prostitution records are analyzed to determine the scope of the business, including the number of employees, their roles, gross and net revenues, and other financial information.

EFFECTIVE: 05/25/90

13-20.1.4 Drug Records

Analysis and interpretation of records relating to illicit drug operations. Records are examined to identify the type of drugs being distributed, their gross and/or net weights or quantities, income generated, money flow, number of persons involved and other like information. Emphasis is placed on supporting drug cases resulting in judicial proceedings such as grand juries, criminal trials, sentencing hearings and forfeiture hearings.

EFFECTIVE: 05/25/90

13-20.1.5 Lotteries, etc.

Evidence of this nature would include lottery tickets, sports parlay cards, sweepstakes, tip tickets and boards, punchboards, and machine tickets. If the printing plates or numbering dies are located, it may be possible to prove that evidence collected was printed by the particular plate or die.

EFFECTIVE: 05/25/90

13-20.1.6 Deleted

EFFECTIVE: 05/25/90

13-20.1.7 Money Laundering

Analysis and interpretation of records relating to money laundering business. Cryptic and actual business records are examined to determine the financial flow of the operations.

EFFECTIVE: 05/25/90

13-20.2 Types of Gambling Evidence

(1) Sports wagering slips.

(2) Numbers wagering slips.

(3) Summaries of wagering slips or tallies including adding machine tapes used to calculate wagering or to summarize writer's accounts. Charting of wagers, systematically done to determine volume of wagering on various events.

(4) Accounting and financial records or "bottom sheets" showing numerous accounts (sometimes code-designated), amounts and/or commissions paid to writers.

(5) Related paraphernalia - sports schedules or line sheets, sports records materials, dream books, cut cards, parlay manuals, conversion charts, scratch sheets, racing forms, etc.

(6) Semidestroyed material such as charred, shredded, torn or wet water-soluble paper.

(7) Transcripts of pertinent legally obtained telephone conversations.

(8) Mechanical, electro-mechanical and electronic video

gambling devices, including coin-operated slot machines as well as devices which electronically simulate or depict the playing of card games, casino games, bingo, keno, lotteries, and horse races.

EFFECTIVE: 06/26/96

13-21 CRYPTANALYSIS

Because of the unique nature and wide scope of these examinations and of the material which may be available for examination, it may be appropriate to telephonically contact the Investigative Operations and Support Section of the FBI Laboratory to resolve any questions that might arise.

EFFECTIVE: 03/21/95

13-21.1 Types of Examinations

EFFECTIVE: 11/21/89

13-21.1.1 Cryptanalytic

(1) Cryptograms or codes.

(2) Notes or notebooks containing cryptic notations.

(3) Material containing symbols or unusual literal or numerical notations.

(4) Correspondence or documents which might contain hidden intelligence, such as

(a) Marked letters or numbers.

(b) Double meaning, wherein certain words and/or phrases are given arbitrary meanings by the writer.

(c) Concealment ciphers, where letters or words are significant according to their positions in the document.

EFFECTIVE: 06/26/96

| 13-21.1.2 |Deleted|

EFFECTIVE: 11/21/89

13-21.2 Material to be Furnished to the Laboratory

EFFECTIVE: 11/21/89

| 13-21.2.1 |Cryptanalytic|

(1) Any work papers available.

(2) Identity of foreign languages that might be involved.

(3) Information as to what the intent or subject area of the document might be.

(4) Complete background information on the case.

(5) Special training subject may have received.

(6) Books, code books, cipher machines, pads, tables, etc., in the subject's possession.

EFFECTIVE: 06/26/96

13-21.2.2 Deleted

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EFFECTIVE: 11/21/89

13-21.2.3 Deleted

EFFECTIVE: 11/23/87

13-22 POLYGRAPH EXAMINATIONS

EFFECTIVE: 11/23/87

13-22.1 General Information

The following general information applies to the polygraph technique and its use in the FBI:

(1) The theory of detection of deception is predicated upon the principle that individuals usually manifest certain physiological reactions when practicing deception, particularly if the truth might produce an undesirable effect on their personal welfare. The reactions are primarily involuntary in character and normally cannot be controlled. During a polygraph examination, changes in the examinee's respiratory cycle, galvanic skin response and mean blood pressure and heart rate are recorded simultaneously and continuously on chart paper during a series of questions. The polygraph chart thus produced is evaluated to determine if the recorded reactions are of the type normally associated with truth or deception. A polygraph test, however, only determines the examinee's perceptions of the truth, not actual truth.

(2) Based upon the examiner's study of the degree and nature of changes and variations in the recorded parameters, one of the following opinions can be reached:

(a) That the recorded responses were not indicative of deception;

(b) That the recorded responses were indicative of deception;

(c) That the recorded responses are inconclusive; or

(d) That the examiner expresses no opinion as to the truthfulness of the examinee due to the incomplete nature of the examination.

(3) Findings and conclusions resulting from interpretations of polygraph charts are generally not admissible in court. There appears to be a trend, however, toward admissibility of the polygraph test results.

(4) Statements, admissions and confessions obtained during a polygraph examination are admissible in court.

(5) The polygraph may be used for the following purposes:

(a) To aid in determining whether a person has pertinent knowledge of a particular matter under investigation or inquiry.

(b) To aid in determining the truthfulness of statements made or information furnished by a subject, victim, witness, informant, and/or an individual making allegations.

(c) To obtain information leading to the location of evidence, individuals or sites of offenses.

(d) To assist in verifying the accuracy and thoroughness of information furnished by applicants and employees in certain situations as specified in section 13-22.12 (Applicants) and section 13-22.13 (Employees).

(6) To enable the Bureau to realize the maximum benefit from their specialized training and skills and in order that they may retain their proficiency in the technique, polygraph examiners are to be utilized primarily as polygraph examiners/interrogation specialists. For this reason, and in order to ensure that each field office has equal access to an examiner, "territorial assignments" have been made for polygraph examiners. Examiners assigned to particular offices are responsible for a territory which includes their own office of assignment and designated neighboring field office. Requests for examinations are to be handled on a priority basis without regard to the examiner's office of assignment. In the event that the examiner responsible for covering a particular office is unavailable to conduct an examination that is needed on an expedite basis, SACs are authorized to coordinate directly with another neighboring office to obtain the services of an examiner.

EFFECTIVE: 11/23/87

13-22.2 General Policy

The following general policies apply to the use of the polygraph by the FBI:

(1) The polygraph technique is highly reliable and valuable as an investigative tool when used by a competent and ethical examiner.

(2) The polygraph is to be used selectively as an investigative aid and results considered within the context of a complete investigation. Polygraph results are not to be relied upon to the exclusion of other evidence or knowledge obtained during the course of a complete investigation. Use of the polygraph for dragnet-type screening of large numbers of suspects or as a substitute for logical investigation by conventional means is prohibited.

(3) Polygraph examinations will be administered only to individuals who agree or volunteer to take an examination. In criminal cases, information concerning a person's refusal to take a polygraph examination shall appear only in the unproductive investigation section of the prosecutive report or in the administrative section of other reports.

(4) The following areas are not to be probed unless directly relevant to the investigation or inquiry.

(a) Religious beliefs or affiliations

(b) Beliefs and opinions regarding social matters

(c) Information concerning sexual opinions or practices

(d) Political beliefs and organizational affiliations of a nonsubversive nature.

(5) Polygraph examinations may only be conducted when the examiner, in his/her professional judgment, believes the results will be accurate. All reasonable efforts must be made to ensure accuracy of the results.

EFFECTIVE: 11/23/87

13-22.3 Authorization/Approval for Conducting Examinations

The following guidelines govern authorization for the conduct of polygraph examinations:

(1) The SAC or person acting for that official may authorize polygraph examinations in connection with an ongoing Bureau case, except as follows:

(a) For authorization regarding polygraph examinations of Bureau employees and persons who make allegations against Bureau employees, see 13-22.14.

(b) Examinations conducted as a cooperative service to other federal agencies must receive prior authorization of the Assistant Director, Laboratory Division, or person acting for that official. SACs should forward such requests to Laboratory Division, Polygraph Unit, with recommendations concerning the propriety of the polygraph examination by a Bureau examiner, consistent with the factors of 13-22.4, and other pertinent interests of the Bureau. All such requests will be considered on a case-by-case basis.

(c) No polygraph examination will be conducted by a Bureau examiner for a state, county or municipal law enforcement agency as a police cooperation matter.

(d) Regarding polygraph examinations of defendants in post-conviction and presentencing situations, the SAC may authorize examinations in those postconviction situations where the polygraph is used in furtherance of continuing investigative interests, such as determining if the defendant perjured himself/herself during trial, verifying that defendants have fully complied with plea bargaining arrangements and conditions, determining the accuracy of information provided by convicted cooperating witnesses and testing the validity of extenuating and mitigating circumstances bearing on sentencing considerations. FBIHQ authority is necessary to conduct a polygraph examination in those situations where the purpose of a proposed polygraph examination would be to determine the veracity or guilt of a defendant with respect to an issue previously determined by trial. Such situations would include a presentence request or order for a polygraph examination by a presiding judge to determine in essence

whether the defendant was really guilty of the offense for which he/she was convicted.

(2) In cases where FBIHQ approval is required, the authorizing FBIHQ official shall be identified on the Polygraph Examination Report (FD-498) which is forwarded to FBIHQ.

(3) Only Bureau polygraph examiners are to be used in FBI cases.

(4) Prior to SAC authority for a polygraph examination in a Financial Institution Fraud case, the USA should be contacted to ensure the USA will consider prosecution should a subject be identified. The result of contact with the USA should be confirmed in writing by appropriate communication to the USA and reported in all subsequent communications relating to the polygraph examination. (See MIOG, Part I, 29-5.)

(5) The decision as to whether or not to employ a polygraph examination must be made with the awareness that it might impact on other prosecutive actions. Therefore, consultation with the office of the USA should take place where deemed appropriate.

(6) Bureau polygraph examiners are trained to evaluate the suitability of the polygraph technique and they should be directly consulted, when possible, as to its applicability and limitations in particular situations. Unresolved issues will be referred to the FBIHQ Polygraph Unit.

EFFECTIVE: 10/13/95

13-22.4 Factors to be Considered in Approving Examinations

When evaluating the advisability of utilizing the polygraph the following factors should be considered:

(1) Determine if investigation by other means has been as thorough as circumstances reasonably permit, the proposed examinee has been interviewed and, consistent with the circumstances of the case, the development of additional information by means of a polygraph examination is believed essential and timely for further conduct of the investigation or inquiry.

(2) Ensure that there is reasonable cause to believe that the person to be examined has knowledge of or was involved in the matter under inquiry or investigation or if the person is withholding information relevant to the inquiry or investigation.

(3) Determine if age is a factor. If a minor is to be examined, ensure a waiver is obtained from a parent or guardian.

(4) Are there any known physical or mental abnormalities?

(5) If the examinee is in custody, can full security and control be assured?

(6) Will the use of the polygraph jeopardize any local or Federal prosecution?

(7) What were the results of any prior polygraph examinations afforded the examinee?

EFFECTIVE: 09/15/80

13-22.5 Verification of Information

When information is supplied to the FBI and that information is not reasonably subject to verification by other investigative methods, use of the polygraph could be of value. Utilization of polygraph should be considered prior to making significant commitments of the Bureau's manpower or financial resources solely on the basis of unverified information. Use of polygraph will in no way absolve Agents of their responsibility to conduct all logical investigation possible by conventional means in order to verify the truthfulness and accuracy of information furnished.

EFFECTIVE: 09/15/80

13-22.6 Responsibilities of the Case Agent

The case Agent is normally the first person to realize that a polygraph examination may be helpful to the investigation. In this regard it is important for the case Agent to understand certain aspects of polygraph procedure and to be fully aware of the existing policies concerning the use of the polygraph. A case Agent has the following responsibilities in connection with polygraph examinations:

(1) Before a case Agent attempts to determine whether a proposed examinee will consent to an examination, it must first be ascertained that the SAC concurs in the need for and authorizes the use of the polygraph. Indiscriminate solicitation of individuals to submit to a polygraph examination is not an efficient or effective investigative procedure.

(2) When a polygraph examination has been authorized, the case Agent should promptly reinterview the proposed examinee and ascertain if he/she will agree to submit to the examination. If the examinee is agreeable to the test, the case Agent will notify an examiner from his/her office or, in the event no examiner is assigned, the examiner of another office assigned to provide such support. The case Agent will then schedule a time and place for the examination to be conducted which is mutually agreeable with the examiner and the proposed examinee.

(3) The case Agent should bring to the attention of the examiner any previously determined illness or psychiatric condition which would preclude the conduct of a meaningful polygraph examination.

(4) If the examinee is suffering from any current illness or physical condition, consideration should be given to rescheduling the examination.

(5) The person to be examined should not be subjected to lengthy interrogation immediately prior to the examination.

(6) [redacted] b2 b7E

[redacted] b2 b7E

(7) An investigator who is thoroughly familiar with the investigation, preferably the case Agent, should be available to assist the polygraph examiner as required during the test. This investigator should also be available to take any statement or confession which the examinee may elect to give after the examination is concluded.

EFFECTIVE: 10/13/95

13-22.7 Mental and Physical Fitness of the Examinee

Due to the nature of the polygraph examination the following guidelines apply:

(1) Persons who are not in sufficiently sound physical or mental condition will not be afforded a polygraph examination.

(2) A person to be examined should have had adequate food and rest before the examination. Examinee should not, at the time of the examination, be under the effects of alcohol, narcotics, drugs, stimulants, or sedatives. During the pretest interview, the examiner will specifically inquire of the person to be examined whether or not he/she is presently receiving or has in the past received medical or psychiatric treatment or consultation.

(3) Polygraph examinations will not be conducted if, in the opinion of the examiner, any of the following inhibit the individual's ability to respond or otherwise cause the individual to be an unfit candidate for examination:

(a) It is apparent that the examinee is mentally or physically fatigued.

(b) The examinee is unduly emotionally upset, intoxicated, or adversely under the influence of a sedative, stimulant, or tranquilizer.

(c) The examinee is known to be addicted to narcotics.

(d) The examinee is known to have a mental disorder which causes the examinee to lose contact with reality or which could reasonably result in the examinee becoming violent during a test.

(e) The examinee is experiencing physical discomfort of significant magnitude or appears to possess disabilities or defects which, in themselves, might cause abnormal physiological reactions.

(4) Should the examiner or examinee have any doubt concerning the above conditions, the matter should be referred to the FBIHQ Polygraph Unit for determination and appropriate action. An examiner will not attempt to make a psychiatric or physical diagnosis of an examinee.

(5) If an examiner has any doubt concerning the ability of an examinee to safely undergo an examination, a statement from the examinee's physician must be obtained before proceeding with the test.

EFFECTIVE: 01/11/85

13-22.8 Polygraph Examination Room

EFFECTIVE: 01/11/85

13-22.8.1 Considerations in Selecting Polygraph Room

The polygraph examination room is of the utmost importance to professional and successful examinations. The room should be relatively free from outside noise and distraction which could break the mood carefully created by the examiner or which could cause distortion in the chart tracings and make them difficult or impossible to interpret. The polygraph room should also have a neat, professional appearance as such will contribute to the confidence the examinee has in the examiner--an essential prerequisite for a successful examination. Each should include an observation device and sound reproducer to allow authorized witnesses to see and hear the activities of the examination.

EFFECTIVE: 01/11/85

13-22.8.2 Specifications for Polygraph Room

Offices undergoing remodeling or occupying new space should contact the FBIHQ Polygraph|Unit|for detailed recommendations and construction specifications for polygraph rooms and furnishings.

EFFECTIVE: 10/13/95

13-22.9 Legal Representation of the Examinee

In criminal matters if so requested, the examiner should provide examinee's attorney a briefing on polygraph procedures. Consistent with other case interests, the attorney may monitor the examination if the facility has that capability. The attorney should not be in the same room where the examination is being conducted.

EFFECTIVE: 01/11/85

13-22.10 Pretest Interview

During the pretest interview the following items will be covered with the examinee by the examiner.

(1) The examinee will be advised:

(a) Of his/her rights, if appropriate, in accordance with the "self incrimination clause" of the Fifth Amendment to the Constitution and that an attorney may be obtained and consulted.

(b) That the examination will be conducted only with the examinee's prior consent.

(c) Of the characteristics and nature of the polygraph instrument, the procedures to be followed during the examination, and all the questions to be asked during the testing phase of the examination.

(d) Whether the area in which the examination is to be conducted contains a two-way mirror or other observation device, and whether the conversation during the examination will be monitored in whole or in part by any means.

(2) An appropriate consent or agreement form will be executed. Should the examinee agree to be examined, but refuse to sign the consent or agreement form, this should be noted on the form by the examiner and witnessed by one other person. The following forms will be used for this purpose:

(a) FD-328, Consent to Interview With Polygraph. This form is to be executed immediately prior to each examination, except those of applicants and employees who are examined under the provisions of 13-22.13.1 of this manual.

(b) FD-328a, Employee Agreement To Interview with Polygraph In Connection With An Administrative Interview. This form is to be executed prior to each examination under the provisions of 13-22.13.1.

(c) FD-328b, Applicant Agreement To Interview With Polygraph. This form will be executed prior to each examination of an applicant.

(3) The examiner will discuss the examinee's background with the examinee and obtain information to complete the necessary forms and to properly formulate questions.

(4) The matter under investigation, inquiry, or at issue, will be discussed in detail with the examinee.

(5) The test questions will be formulated by the examiner based on the case facts and the pretest phase of the examination. Each question to be used will be thoroughly discussed with the examinee. Words and terminology in questions must be completely understood by the examinee and wording will be in the vernacular of the examinee insofar as is possible. The examinee must understand the full meaning of each question. The questions should be simple, direct, and designed to elicit a "yes" or "no" answer only. They should not imply guilt on the part of the examinee.

EFFECTIVE: 12/16/88

13-22.11 Reporting Procedures

The following procedures shall apply in reporting the results of the polygraph examination:

(1) Normally within ten working days following the completion of each examination, the examiner will forward, by special preprinted envelope, the following items which will reflect his/her preliminary opinion of test results for quality control review by a second certified Bureau examiner.

(a) Polygraph Examination Worksheet (FD-497) - submit original and one copy to FBIHQ.

(b) Polygraph Examination Report (FD-498) - submit original and one copy to FBIHQ.

(c) Consent or Agreement form (FD-328, FD-328a, or FD-328b)

(d) Copy of Interrogation, Advice of Rights (FD-395) (if used)

(e) All polygraph charts

(2) As polygraph examination results are not considered final until completion of the quality control review, preliminary opinions of truth or deception should not appear in any other document prior to concurrence in that opinion by polygraph review personnel of FBIHQ. This includes airtels, teletypes, etc. Examiners should advise case Agents of the danger involved in transmitting unofficial or preliminary findings. The Polygraph Examination Report (FD-498) is to be considered as a draft report until approved by supervisory personnel at FBIHQ.

(3) In criminal cases, upon completion of review at FBIHQ all polygraph documents will be returned to the field. In inquiry type examinations and those otherwise involving Bureau employees or applicants, the polygraph documents will be retained at FBIHQ.

(4) In the event it is determined that further testing or reevaluation is necessary, all documents and charts will again be forwarded to the Laboratory for additional quality control review following such reevaluation or retesting.

(5) Upon completion of the polygraph examination, an FD-

302 should be prepared to reflect all relevant admissions made by the examinee. However, the opinion of the polygraph examiner regarding indications of truth or deception will be recorded only on the Polygraph Examination Report (FD-498), which will be submitted to the case file in the same manner as other laboratory reports after review by FBIHQ quality control personnel. If no admissions are made, an FD-302 is not necessary as all relevant information will be on the FD-498.

(6) A copy of all correspondence pertaining to polygraph matters should be designated for Bufile 80-5, the Polygraph Matters control file.

(7) Data regarding polygraph examinations and results (FD-498) is to be reported in the body of investigative reports in the same manner as other investigative matters.

EFFECTIVE: 10/13/95

13-22.12 Polygraph Examinations of FBI Applicants (See MIOG, Part I, 67-7.10, Part II, 13-22.1(5)(d).)

(1) All FBI applicants for support and Special Agent (SA) positions (including on-board support employees who apply for SA positions) must undergo a polygraph examination focusing on national security issues, use or sale of illegal drugs and completeness of the FD-140 (Application for Employment). Standardized testing formats have been provided to each field polygraph examiner for their use. These examinations are to receive priority attention and should be handled in a manner that will expedite the applicant process.

(a) Deleted

(b) Deleted

(c) Deleted

(2) The Special Agent Applicant Unit (SAAU) and the Bureau Support Applicant Unit (BSAU), Personnel Division will ensure that all applicants are advised that they will be required to submit to a polygraph examination during the processing of their application and prior to their employment to assist in the resolution of issues directly related to national security, the FBI guidelines regarding

the sale and use of illegal drugs and the accuracy/completeness of the FD-140 (Application for Employment-FBI).

(3) Any pertinent information developed during the polygraph examination should be provided in writing by the applicant on a supplemental information form.

(4) A preemployment polygraph examination is one element of the overall applicant screening process. It is not to be considered as a substitute for a thorough and complete background investigation. The preemployment polygraph test is NOT designed to assess trustworthiness and suitability in areas NOT covered by the examination.

(5) Failure to submit to a polygraph examination, or failure to satisfactorily cooperate during the examination will be considered in determining whether the applicant shall be hired. Prior to the examination, the examiner will obtain the applicant's agreement in writing to take the polygraph examination (FD-328b).

(6) Deleted

EFFECTIVE: 04/29/97

13-22.12.1 Polygraph Examinations of FBI Applicants - Drug Issues (See MIOG, Part I, 67-7.10.1.)

(1) All applicants for permanent employment with the FBI are required to submit to a polygraph examination on specific issues, i.e., those which relate to their trustworthiness and eligibility for a "Top Secret" security clearance (security issues) and those which relate to their use of illegal drugs (drug use) as well as veracity of information furnished on their application. To address questions and concerns regarding use of the polygraph for drug issues, an applicant will be placed in one of three specific categories:

(a) Passed - No Indication of Deception

(b) Failed - Deception Indicated

(c) Inconclusive - Unable to Determine Results

(2) Concerns raised regarding use of the polygraph to

address drug use and/or results of drug use examinations predominantly are associated only with the second category--those cases in which an applicant failed the examination. Cases involving a failed polygraph examination on drug use will be readily categorized as follows:

(a) Failed - Subsequently Admitted Deception - Drug Use EXCEEDS FBI Suitability Standards

(b) Failed - Subsequently Admitted Deception - Drug Use DOES NOT EXCEED FBI Suitability Standards

(c) Failed - Denies Deception

(3) Applicants whose polygraph results fall into the first category above merit NO further consideration for employment. These applicants do not meet FBI suitability standards regarding drug use.

(4) Applicants who fall into the second category above are NOT eligible for further applicant processing. A lack of candor displayed by an applicant during the polygraph phase warrants their disqualification. Each applicant should be advised of the significance of candor during the applicant process and advised to tell the truth prior to their polygraph examination.

(5) Applicants whose drug use polygraph examination results fall into the last category, "Failed - Denies Deception," warrant particular review. In those instances in which an applicant fails the polygraph on drug use issues and maintains that he/she has told the truth and can offer no explanation for the deceptive outcome of his/her polygraph, the FBI will take the following action:

(a) On-Board Support Personnel Applying for the Special Agent (SA) Position: When an on-board support employee fails a polygraph examination regarding drug use issues, that fact must be reported to the Office of Professional Responsibility (OPR) so that an appropriate inquiry may be conducted. In such cases, the employee will be required to submit to an interview conducted under the auspices of an OPR investigation regarding his/her use of, or other association with illegal drugs, and a signed sworn statement will be taken from the employee regarding his/her involvement in the illegal use of drugs. In addition, OPR will conduct appropriate investigation to determine if the employee has used illegal drugs post-employment with the FBI and/or used illegal drugs preemployment and failed to disclose the exact nature or extent of that use to the FBI. During the course of the OPR inquiry, the employee will be required to again

submit to a polygraph examination regarding drug use. The second polygraph examination will be conducted by a polygrapher other than the individual who administered the first examination. If the employee fails the second examination, the administrative inquiry will continue, as may be appropriate, in accordance with current FBI policy in such matters and no further processing for the SA appointment will be conducted. If the employee passes the second polygraph examination regarding drug use and has not admitted deception on the prior examination or involvement with or use of illegal drugs previously unknown to the FBI, OPR will complete its inquiries and forward its findings to the|Adjudication|Unit. Upon adjudication,|SAAU|will once again consider the employee for the SA position.

(b) Outside Applicants Who Fail the Polygraph Examination regarding Drug Use and Deny Deception: Individuals who seek FBI employment and fail their polygraph examination regarding drug use will be disqualified from further consideration except in limited circumstances. Each applicant will be advised by the Personnel Division of the results of his/her examination and whether he/she has been determined eligible for further processing.

(6) If an applicant from outside the FBI fails the polygraph, and maintains that he/she has not been deceptive, he/she may request to be considered for further applicant processing. This request should be sent by the applicant directly to the FBIHQ division head or SAC that previously has been sponsoring the applicant's employment application. If deemed appropriate by the FBIHQ division head or SAC, the applicant should be thoroughly interviewed regarding his/her use/involvement with illegal drugs. This interview should be conducted by an experienced Special Agent other than the polygrapher or SA previously involved in processing the applicant for employment. The result of that interview must be documented in detail in an FD-302. It will be the responsibility of an FBIHQ division head or SAC to personally review the applicant's file to determine if further consideration is warranted on the merits of the case. An FBIHQ division head or SAC may submit a written recommendation to the Personnel Division to request that an applicant be given a second polygraph on the basis of the information developed subsequent to the polygraph examination. Such information should, of course, provide a basis justifying the applicant's reexamination. To ensure consistency and equity in decisions to afford such applicants further consideration, the Deputy Assistant Director - Personnel Officer, Personnel Division, will be responsible for approval of the decision to afford an outside applicant a second polygraph examination.

EFFECTIVE: 04/29/97

13-22.13 Polygraph Examinations of FBI Employees

In addition to other pertinent requirements, the following policy applies to all polygraph examinations of Bureau employees.

EFFECTIVE: 01/11/85

13-22.13.1 Polygraph Examinations of FBI Employees Who Are Required to Submit to an Employee Interview (See MIOG, Part I, 263-6(3); II, 13-22.10(2), 13-22.13.2(1), (3), 13-22.13.4(1),(3), 13-22.14(2)(c); MAOP, Part I, 1-20(2)(e), 13-4.1.)

(1) When approved in accordance with 13-22.14, an employee who is required to submit to an employee interview may be requested to submit to a polygraph examination. The Bureau may draw an adverse inference from an employee's refusal to submit to such a polygraph examination, provided that such refusal alone shall not be the sole basis for disciplinary action against the employee.

(2) In the case of a security clearance adjudication, an employee's refusal to submit to a polygraph examination has the effect of denying the Security Programs Manager (SPM) the ability to complete a favorable security adjudication on the trustworthiness of the employee. The inability of the SPM to make an affirmative finding of trustworthiness will result in the revocation of an employee's Top Secret (TS) security clearance. Since a TS security clearance is a condition of employment, the FBI Personnel Officer is simultaneously advised of the revocation decision and thereafter the employee is dismissed from the rolls of the FBI.

(3) The following requirements must be satisfied if an employee is requested to submit to a polygraph examination pursuant to (1) and (2) above:

(a) The polygraph examination must be conducted in accordance with Bureau regulations for employee interviews;

(b) The employee must be advised of the consequences of a refusal to submit to a polygraph examination, and that failure to

satisfactorily cooperate during a requested polygraph examination will be considered a refusal to submit to an examination;

(c) Prior to the examination, the examiner will obtain the examinee's agreement to be examined or polygraph (FD-328a, Employee Agreement To Interview With Polygraph In Connection With An Administrative Interview); and

(d) The investigation must concern a serious violation of law or policy involving one or more of the following situations:

1. The intentional and unauthorized release of sensitive protected information (including, for example, classified information, investigatory material and information, the disclosure of which is prohibited by law or regulation) with the reasonable expectation that it would ultimately be disclosed to those from whom the information is protected and would seriously and adversely affect an FBI function;

2. Serious questions concerning an employee's relationship with or allegiance to a foreign power;

3. The illegal or improper exercise of influence, coercive or otherwise, by an individual or group on an employee which could reasonably be expected to seriously affect or inhibit the employee in the impartial and effective performance of the employee's duties; or

4. The intentional and unauthorized destruction, mutilation, alteration, misplacement, taking, falsification, or other impairment of previously existing Bureau documents or evidence in the Bureau's possession or control.

5. Use of or unauthorized dealing in controlled substances, as defined under the Comprehensive Drug Abuse and Controlled Substances Act of 1970, Title 21, United States Code, by Bureau employees during the course of their employment.

6. The furnishing of false statements or the failure to candidly disclose information concerning prior criminal activities requested during the course of his/her employment processing. (See MIOG, Part II, 13-22.13.4.)

7. Allegations, evidence or indications of theft, fraud and/or misuse involving money, credit cards, securities

and/or property belonging to, or in the posession of or under the control of the United States Government.

EFFECTIVE: 10/13/95

13-22.13.2 Polygraph Examinations of Bureau Employees Who Are Subjects of Criminal Investigations

A polygraph examination may be given to an employee who is the subject of a criminal investigation if the following requirements are satisfied:

(1) If the employee is required to submit to the interview then the polygraph examination given in conjunction with the interview shall be governed by the policies set forth in 13-22.13.1 above.

(2) If the allegations involve violations of Federal statutes within the Bureau's investigative jurisdiction, and the employee is not being required to submit to the interview but is doing so voluntarily, a polygraph examination may also be given if each of the following conditions are satisfied:

(a) Current Bureau regulations and procedures for employee interviews are observed;

(b) Current Bureau regulations and procedures applicable to polygraph examinations in criminal investigations are observed;

(c) The employee is requested to submit to a polygraph examination only in circumstances in which a nonemployee would be requested to submit to a polygraph examination; and

(d) The employee agrees to take the examination (FD-328, Consent to Interview With Polygraph).

(3) If the allegations involve violations not within the Bureau's investigative jurisdiction, polygraph examinations may only be given pursuant to 13-22.13.1 or 13-22.13.3.

EFFECTIVE: 08/17/84

13-22.13.3 Voluntary Polygraph Examination of Employees

An employee may be asked or an employee may ask to undergo a polygraph examination in the following circumstances:

(1) If the employee is the subject of an FBI criminal investigation, the use of the polygraph shall be governed by the policies set forth in 13-22.13.2.

(2) If the employee is not the subject of an FBI criminal investigation, and the employee is not being required to submit to an employee interview, but is doing so voluntarily, then the employee may also be asked to submit to the interview in the form of a polygraph examination, or the employee may ask for the examination if the following requirements are satisfied:

(a) The employee must be advised that the examination is totally voluntary; that the employee may change the decision at any time without any disciplinary action being taken or adverse inference being drawn;

(b) The employee must signify in writing that he or she is voluntarily submitting to the polygraph examination by executing FD-328, (Consent To Interview With Polygraph); and

(c) FBI regulations and procedures for employee interviews must be observed.

EFFECTIVE: 08/17/84

13-22.13.4 Routine and Periodic Use of Polygraph Examinations for Bureau Employees

(1) Except as provided in 13-22.13.4, routine polygraph examinations of employees not suspected of being involved in any of the situations listed in 13-22.13.1 (2)(d) are prohibited.

(2) Employees who are subjected, or whose circumstances suggest that they could be subjected, to extremely coercive influences by an individual or group may be requested to submit to a polygraph

examination on a periodic basis to determine if the coercive influences are significantly affecting the performances of their duties. Coercive influences include, but are not limited to, relative-hostage situations, extortion, blackmail, and similar circumstances where it is reasonable to believe that the individual or group could significantly influence the employee's work performance.

(3) Polygraph examinations authorized by 13-22.13.4 shall be conducted consistent with the procedures and policies set forth in 13-22.13.1.

EFFECTIVE: 08/17/84

13-22.14 Approval and Conduct of Employee Polygraph Examinations
(See MIOG, Part I, 263-6(3); II, 13-22.3, 13-22.13.1; MAOP, Part I, 13-4.1.)

(1) All polygraph examinations of FBI employees and those who have made allegations against FBI employees must be approved by the Assistant Director, Inspection Division, or another person designated by the Director. In the case of polygraph examinations requested pursuant to a security clearance adjudication, the Director has delegated approval authority to the Assistant Director, National Security Division.

(2) The following standards apply for approval of polygraph examinations:

(a) No employee may be requested or asked to submit to a polygraph examination without an adequate demonstration of facts or circumstances indicating the need for a polygraph examination of that individual.

(b) All reasonable efforts must be made to resolve allegations or questions before requesting an employee to submit to a polygraph examination.

(c) Before any employee is requested to submit to a polygraph examination, the refusal of which may be used as a factor in determining whether the employee will be subjected to disciplinary action (13-22.13.1), there must be a substantial objective basis to suspect that the individual may be involved in one of the situations

listed in 13-22.13.1.

(d) Employees who are requested or asked to submit to polygraph examinations will be fully advised of their options and the potential consequences of the exercise of those options.

(3) Use of the results of polygraph examinations.

(a) Disciplinary action will not be predicated solely upon the results of a polygraph examination, or upon the refusal to submit to a polygraph examination. (See (d).)

(b) The results of a polygraph examination may be considered with other evidence.

(c) Employees will be furnished the results of a polygraph examination prior to being subjected to any disciplinary action based in part on the results of the examination.

(d) An employee's refusal to submit to a polygraph examination in the case of a security clearance adjudication has the effect of denying the Security Programs Manager (SPM) the ability to complete a favorable security adjudication on the trustworthiness of the employee. The inability of the SPM to make an affirmative finding of trustworthiness will result in the revocation of an employee's Top Secret (TS) security clearance. Since a TS security clearance is a condition of employment, the FBI Personnel Officer is simultaneously advised of the revocation decision and thereafter the employee is dismissed from the rolls of the FBI.

(e) The results of a polygraph examination may be maintained with the records resulting from the investigations. Dissemination of such information shall be strictly limited to persons who have a legitimate right or requirement for access to the information.

(f) Deliberate or negligent misuse of the results of polygraph examinations shall be grounds for administrative action.

(4) Polygraph examination of employees will be administered away from their own office of assignment. This procedure will help protect the confidentiality of the inquiry/investigation and lessen the outside pressure on the employee which could be associated with employee's friends' and associates' knowledge of employee's participation in examination. (See MIOG, Part I, 263-6(2); MAOP, Part I, 13-4.1.)

(5) Polygraph examinations of Bureau employees are to be administered by an FBIHQ examiner. In the event an FBIHQ examiner is not available, the examination will be conducted by an examiner selected by FBIHQ.

EFFECTIVE: 10/13/95

13-22.15 Selection, Training, and Certification of Polygraph Examiners

Requirements have been established to ensure that Bureau examiners meet the highest standards of integrity, competence, and professional excellence.

EFFECTIVE: 11/23/87

13-22.15.1 Selection and Training of FBI Polygraph Examiners

(1) To meet future needs for polygraph examiner trainees, a pool of candidates will be maintained by FBIHQ from which trainees will be selected. Any Agent interested in being trained in this investigative specialty should submit a memorandum to the SAC who will forward the requesting memorandum, with personal recommendations, to FBIHQ, Attention: Laboratory Division. Interested Agents should indicate if they are willing to accept transfer or if they desire consideration only for their current division.

(2) When vacancies occur, trainees will be selected by an FBIHQ selection board, in coordination with affected SACs.

(3) No Agent will be transferred to fill a polygraph examiner vacancy without his/her prior concurrence.

(4) Prior to selection, Agents will be interviewed by the selection board at FBIHQ and undergo a nonspecific polygraph examination.

(5) The following factors will be evaluated in selection of Agents to receive polygraph examiner training.

(a) At least five years' investigative experience

(b) Experience and demonstrated success as interviewer/interrogator and as case Agent in complex investigations

(c) Ability to perform well under stress and in confrontational situations

(d) Availability for travel to conduct examinations in other divisions and throughout own field office territory as required (should NOT be in a hardship assignment or have medical mandates (restrictions) that would prohibit the employee from required travel.)

(e) Good judgment, maturity, dependability, self-motivation, and ability to work well alone should be clear attributes of Agent

(f) Willingness to be assigned to a headquarters city office, devote full time to polygraph examiner duties, and forego involvement in other collateral/coordinator-type activities.

(6) Agents selected for the program will complete the Polygraph Examiners Training Course at the Department of Defense Polygraph Institute, Fort McClellan, Alabama. The course, which is approximately 14 weeks in length, includes instruction in polygraph theory and procedures, psychology, physiology, semantics, question formulation, instrumentation, and legal matters related to polygraph. During the course students also conduct 50 polygraph examinations of persons who participate in mock crime situations.

EFFECTIVE: 12/27/93

13-22.15.2 Certification of Examiners

To be certified as an FBI polygraph examiner the following must be satisfied:

(1) The examiner must be a graduate of a Bureau-approved polygraph school.

(2) The examiner must successfully complete an internship consisting of conducting a minimum of 12 examinations with supervision

of a certified Bureau examiner.

(3) The continued demonstration of proficiency in the polygraph techniques.

(4) The examiner should, if possible, conduct a minimum of 48 examinations per year. Examiners assigned duties in direct support of the FBI's quality control program at FBIHQ are exempt.

(5) The examiner should attend at least one FBI polygraph in-service training course or Bureau-approved polygraph refresher course or seminar at least every two years.

(6) Any examiner who has lost the requirements for certification can be recertified by successful completion of a Bureau-approved refresher course. In addition, the examiner being recertified will be required to conduct a minimum of 12 examinations under the supervision of an FBI certified examiner. Upon the completion of the above, the FBI certified examiner supervising the examiner for recertification will, in writing, forward his/her recommendations as to recertification to FBIHQ.

EFFECTIVE: 11/23/87

13-22.15.3 Refresher Training and Polygraph Seminars

Requests to attend refresher training courses, polygraph seminars, and/or meetings of professional polygraph associations should be handled in the following manner:

(1) Submit requests (Optional Form 170) along with appropriate details to FBIHQ, Attention: Polygraph Unit.

(2) Expenses incurred in conjunction with approved attendance at such functions are to be claimed on an expense voucher.

(3) Pertinent information gleaned at meetings, especially results of polygraph research, should be furnished to FBIHQ for possible distribution to all Bureau examiners.

EFFECTIVE: 12/19/86

13-22.15.4 Performance Appraisal

(1) Field polygraphers have been assigned two critical elements by which their performance as polygraph examiners is evaluated. Because of the uniqueness of their responsibilities, i.e., frequently serving more than one field division and the review of each examination both technically and procedurally through a mandated quality-control process, these particular elements are rated and reviewed by Supervisory Special Agent Polygraph Examiners assigned to FBIHQ. This procedure does not preclude, at the SAC's discretion, the addition of critical elements generated by field offices reflecting other duties and responsibilities handled by their assigned polygraphers.

(2) Only the critical elements relating to polygraph performance will be rated and reviewed by FBIHQ. If additional elements are established by the field office, they are to be rated and reviewed by appropriate field supervisors. All critical elements (the two prepared for the Polygraph Program and any prepared by the field) will be combined to determine the overall rating of the employee prior to forwarding the performance appraisal to the Performance, Recognition and Awards Unit, Personnel Division.

EFFECTIVE: 04/21/94

13-22.15.5 Voice-Stress Devices Prohibited

Use of voice-stress devices to determine the truthful or deceptive nature of a person's oral statements is prohibited. Only Bureau-approved polygraph examiners using true polygraph instruments designed to record at least three physiological parameters including respiration, heart rate/blood pressure, and galvanic skin response (GSR), are authorized to conduct detection of deception examinations.

EFFECTIVE: 12/19/86

13-23 TRANSLATION POLICY (See MAOP, Part I, 22-6.)

EFFECTIVE: 09/08/93

| 13-23.1 |Deleted|

EFFECTIVE: 09/08/93

| 13-23.2 |Deleted|

EFFECTIVE: 09/08/93

| 13-23.3 |Deleted|

EFFECTIVE: 09/08/93

| 13-23.4 |Deleted|

EFFECTIVE: 09/08/93

13-24 ARTIST CONCEPTIONS

Consideration should be given to the preparation of artist conception portrait drawings of unknown subjects in selected Bureau cases. These sketches are prepared by Visual Information Specialists (VIS) at Headquarters from "look-alike" reference photos selected from the FBI Facial Identification Catalog and other descriptive data furnished by witnesses or victims.

EFFECTIVE: 12/10/91

13-24.1 Policy

EFFECTIVE: 12/10/91

13-24.1.1 General (See MIOG, Part II, 13-25.1.1(1).)

(1) Because of a limited staff of VIS, requests for artist conceptions other than those where the FBI has investigative jurisdiction must be approved on the merits of each individual request by Assistant Director of the Laboratory Division.

(2) In most instances, VIS prepare drawings from descriptive data transmitted to Special Projects Section via facsimile machine. If special handling is requested, a composite drawing can be completed in 2-4 hours. On cases of national import, consideration will be given to sending the VIS to the field location. A composite drawing prepared during a hypnosis session would be one such instance. VIS will participate in accordance with Bureau policy governing use of hypnosis as an investigative aid.

(3) Offices utilizing Identi-Kits or other automated systems can have these composites modified or redrawn according to specifications submitted by field office. Although the Identi-Kit cannot duplicate the skill and versatility provided by the VIS in the illustration of a facial likeness, it can serve a useful purpose as one of the methods Bureau offices can employ to prepare composites if the VIS cannot respond within time limits the field investigation in progress requires.

(4) As the investigation progresses, the Laboratory,

Attention: Special Projects Section, should be advised of the use and effectiveness of the drawing as an investigative aid.

EFFECTIVE: 06/26/96

13-24.1.2 Dissemination

(1) The SAC may approve releasing Bureau prepared artist conceptions for publication by the news media in unknown subject cases in which the witnesses have stated the drawing is an excellent likeness to the unknown subject. After approval is received, file numbers and issue date information must be removed from the prints prior to releasing them. This is done by cutting off the bottom portion of each print.

(2) FBIHQ approval is required before an artist conception can be used in a circular letter.

EFFECTIVE: 08/16/82

13-24.1.3 Administrative Identification

All artist conceptions should, whenever possible, carry a Bureau file number, field office file number, and the date that the drawing was issued. This data will appear at the very bottom of the photographic prints of these drawings and may, if desired, remain on these prints while they are used for investigative purposes. The data must remain on the prints when they are produced as evidence at trial.

EFFECTIVE: 08/16/82

13-24.2 Requesting an Artist Conception

(1) The "look-alike" references from the FBI Facial Identification Catalog are recorded on an FD-383 (Facial Identification Fact Sheet) which, along with other detailed descriptive or illustrative material, is forwarded to the Laboratory, Attention: Special Projects Section. Requests should be limited to those cases in which the witnesses can provide detailed descriptions, have selected a sufficient number of characteristics from the Facial Identification Catalog, and be reasonably confident they can recognize a likeness of the unknown subject if a sketch is produced.

(2) All offices and resident agencies having a facsimile device should consider using this device for transmitting the FD-383 and related reference material directly to the Laboratory, Attention: Special Projects Section, between 8:00 a.m. and 5:30 p.m., Washington, D.C., time. The telephone number of this facsimile in the Special Projects Section is [redacted] Contact FBIHQ during other hours. b2

(a) Use of the facsimile device will ensure expeditious handling of the request.

(b) Also, use of FTS line can provide a direct communication between the artist and the interviewing Agent or witness when necessary.

EFFECTIVE: 08/16/82

13-24.3 Results of Request

(1) The drawing will be prepared in the Special Projects Section in the shortest possible time existing priorities permit, and transmitted to the requesting office by facsimile device for evaluation by the witnesses. Revisions may be requested by the field as needed until a good likeness is developed.

(2) Three polaroid copies of the drawing will be sent to the requesting office by routing slip on the same date as the facsimile transmission. If more than three Polaroid copies are deemed necessary, they may be made using field office facilities or from suitable local sources after approval of the likeness by the witnesses. If the extra copies cannot be obtained in the field, they may be ordered from the Laboratory, Attention: Special Projects Section.

EFFECTIVE: 03/23/92

13-25 FACIAL AGING

Consideration should be given to the preparation of facially aged photographs of children and adults, using a computerized aging system located at FBI Headquarters. These aged photographs are prepared by Visual Information Specialists (VIS) of the Laboratory Division.

EFFECTIVE: 03/23/92

13-25.1 Policy

EFFECTIVE: 03/23/92

13-25.1.1 General

(1) As set forth in the policy statement for Artist Conceptions, (13-24.1.1) requests for facial aging must be restricted to those cases where the Bureau has jurisdiction. Any exceptions must be approved by the Assistant Director of the Laboratory Division.

(2) In situations requiring a child's photograph to be aged/updated, photographs of a parent, brother, or sister are|requested as they may be|scanned into the system and incorporated with the victim's photograph to produce the aged or projected image of how the child is likely to appear.

(3) A similar methodology is used in aging adult subjects; however, family photographs are|generally|not incorporated with the subject to achieve the aged image. The addition of facial lines and hair,|increase or decrease in body weight, and a change of hairstyle are the most common factors used in this process, and these are borrowed from other facial images available to the artist.

(4) The value of this technique lies in the fact that when the computer system is used by an experienced artist, the rendering is more technically accurate than those produced entirely by

hand, and it can be produced much faster.

(5) In some instances, it may be advisable or necessary for the Bureau artist to accompany the case Agent in interviews with the victim's family.

EFFECTIVE: 06/26/96

13-25.2 Administrative Identification

All aged photographs should, whenever possible, carry a Bureau file number, and the date that the photograph was issued. This data will appear at the very bottom of the photographic prints and may, if desired, remain on these prints while they are used for investigative purposes. The data must remain on the prints when they are produced for, or used as, evidence at trial.

EFFECTIVE: 03/23/92

13-25.3 Requesting a Facially Aged Photograph

In order to ensure the accuracy with which a photograph may be aged, the requesting office should submit several of the highest quality photographs available of the victim/subject, as well as all pertinent descriptive data regarding the victim/subject, i.e., date of birth, facial characteristics, etc. This information should be forwarded to the Laboratory Division, Attention: Special Projects Section by an FD-790 (Special Projects Section Work Order).

EFFECTIVE: 03/23/92

13-25.3.1 Results of Request

(1) The aged photograph will be prepared in the Special Projects Section in the shortest possible time existing priorities will permit. Revisions may be requested by the field as needed until a projected likeness is developed.

(2) One black and white, 4" x 5" photographic print of the aged rendering will be shipped to the requesting office. If more than one print is deemed necessary, they may be made using field office facilities or from a suitable local source. If the extra copies cannot be obtained in the field, they may be ordered from the Laboratory Division, Attention: Special Projects Section.

EFFECTIVE: 03/23/92

13-26 VISUAL AIDS

The Special Projects Section, Laboratory, has the ability to design and prepare visual aids for investigative and prosecutive assistance, law enforcement training, as well as for administrative and informational purposes. (For information concerning artist conception portrait sketches, see paragraph 13-24 above.)

EFFECTIVE: 03/23/92

13-26.1 Requests

EFFECTIVE: 03/23/92

13-26.1.1 From FBIHQ

All requests from FBIHQ must be directed to the Special Projects Section by an FD-790 (Special Projects Section Work Order).

EFFECTIVE: 03/23/92

13-26.1.2 From the Field

All requests from the field must be directed to the FBIHQ Laboratory Division by an FD-790 to the attention of the Special Projects Section and must contain the the following:

(1) A general description of the work requested

(2) The purpose and its use

(3) All available reference and explanatory data, and

(4) A sketch, if applicable, which does not have to be drawn to scale but must contain detailed measurements.

(a) If the request is for an investigative or prosecutive aid, it is to be submitted to the appropriate substantive investigative desk at FBIHQ for approval.

(b) Deleted

|(5) The case caption and file number if applicable.|

EFFECTIVE: 09/03/93

13-26.2 Drawings

(1) Two-dimensional visual aids include prosecutive and investigative aids such as:

(a) Street map for locating evidence, buildings, witnesses or routes.

(b) Plat map for locating evidence, buildings, subjects or witnesses.

(c) Terrain map showing wooded areas or other physical features.

(d) Combination map and photographic display to illustrate appearance of specific areas.

(e) Floor plan for locating evidence or movement of

subjects.

(f) Diagram to explain check-kiting, telephone contacts or organizational structures.

(g) Statistical charts, graphs and bar charts.

(h) Enlargement of accounting papers or bank forms.

(2) Drawings will be prepared from information furnished or if the situation warrants, from on-the-scene data collected by FBIHQ personnel. Source material that can be used by the Special Projects Section as reference for preparing the drawings can often be found at municipal and other government offices.

(a) Floor plans at building inspector.

(b) Plat plans at tax assessor.

(c) Street and curb plans at highway department.

(d) Maps at U.S. Geological Survey.

(3) All source material must be verified for accuracy before submission.

EFFECTIVE: 03/23/92

||13-26.3| Models (Three-Dimensional)

(1) When deemed essential and approved by FBIHQ, a three-dimensional model can be prepared in major cases. The model will be constructed from measurements, photographs, and on-the-spot observations made by FBIHQ personnel to ensure authentication for the admittance of the model as evidence.

(2) The construction of three-dimensional models for use in aiding the United States Attorney to present his/her case are limited to instances when a clear illustration of the facts cannot be achieved with a two-dimensional chart. In most instances they are prepared to scale and are necessarily constructed from data collected on the scene by the VIS from Special Projects Section.

(3) The cost of preparing the three-dimensional trial

model limits its use to major cases or those where alternate means of illustration cannot be used to supply a vital point to the prosecution of the case. Circumstances often falling within these guidelines include:

(a) Sections covering two or more physical levels such as between floors of a building or decks of a ship.

(b) A replica of a mechanical device which cannot be transported to the courtroom.

(c) A reproduction of terrain showing altitudes and distances.

(4) Requests for models should be made reasonably soon after occurrence of the crime to enable the VIS to construct the model to represent the scene accurately at time crime was committed.

EFFECTIVE: 05/26/89

||13-26.4| Special Investigative Equipment

Special equipment or enclosures can be constructed with approval of FBIHQ.

EFFECTIVE: 05/26/89

||13-26.5| Special Surveillance Graphics

With approval of appropriate FBIHQ substantive desk, a variety of graphic items can be designed and prepared as a comprehensive package to assist in the staging and operation of special surveillance activities.

EFFECTIVE: 05/26/89

||13-27| RADIATION HAZARDS

EFFECTIVE: 05/26/89

||13-27.1| Introduction

Radioactive materials are in use in the nuclear power industry, nuclear weapons industry, academic and industrial research environments and in medicine. Accidents, death and injuries resulting from the handling and transportation of radioactive materials have been few; however, the role of radioactive materials in a terrorist incident, an extortion or a theft presents a special hazard to the investigator. Radiation is invisible and insensible; therefore, special knowledge about it will enable the investigator to intelligently evaluate its hazard.

EFFECTIVE: 05/26/89

||13-27.2| Terminology

EFFECTIVE: 05/26/89

||13-27.2.1| Atoms

Atoms are small particles of matter which have the characteristics of an element. For example, gold and silver are both elements and the smallest particle of gold or silver which can be identified as gold or silver is an atom of gold or an atom of silver.

EFFECTIVE: 05/26/89

||13-27.2.2| Isotopes

Isotopes are varieties of the same element which have the same chemical properties but have a different nuclear structure and therefore different physical properties. For example, we have three isotopes of hydrogen; namely, Hydrogen One, Hydrogen Two and Hydrogen Three.

(1) Stable isotopes are ones which are incapable of spontaneous change and thus are not radioactive.

(2) Unstable isotopes undergo spontaneous changes and emit nuclear radiations.

EFFECTIVE: 05/26/89

||13-27.3| Nuclear Radiations

Nuclear radiations involve the emission of energy or particles from a nucleus.

EFFECTIVE: 05/26/89

||13-27.3.1| Alpha Particle

Alpha particle is a positively charged particle emitted from a nucleus and similar to a helium nucleus. It has a relatively large mass with low penetrating power and a short range. Alpha particles will usually not penetrate the skin but danger occurs when alpha emitters are introduced into the lungs or intestines.

EFFECTIVE: 05/26/89

||13-27.3.2| Beta Particle

Beta particle is a high speed negatively charged electron emitted from a nucleus. It has little mass, low penetrating power and a short range. The more energetic particles will penetrate the skin. Danger is due to skin burns and internal damage if the emitter enters the body and lodges in a body organ.

EFFECTIVE: 05/26/89

13-27.3.3 Gamma Ray

Gamma ray is a unit of radiation energy similar|to, but more energetic than,|X-rays. Gamma rays can do body damage even when the source is located outside of the body due to their penetrating power.

EFFECTIVE: 07/25/97

13-27.3.4 Neutron

Neutron is a subatomic particle which has no electrical charge and it is one of|two principal|particles in the nucleus.

EFFECTIVE: 07/25/97

||13-27.4| Radiation Effects

Nuclear radiations avoid detection by all our senses. Excessive dosages are normally hazardous. Police activity in or around radiation areas requires special vigilance. Radiation hazards are usually considered as either external or internal hazards.

EFFECTIVE: 05/26/89

||13-27.4.1| External Hazards

Bodily damage can result from overexposure to gamma rays even though the radioactive material is outside the body. Gamma rays are external hazards.

EFFECTIVE: 05/26/89

||13-27.4.2| Internal Hazards

Bodily damage can result if radioactive material emitting alpha and beta particles contaminates our food or the air we breath and in this manner is taken into our bodies in excessive amounts. Alpha and beta particles are considered internal hazards.

EFFECTIVE: 05/26/89

||13-27.5| Detection Equipment

EFFECTIVE: 05/26/89

||13-27.5.1| Survey Meters

Survey meters are portable instruments designed to enable one to evaluate a particular radiation. They may be designed to detect and measure alpha, beta and gamma radiation and are used for the evaluation of contaminated foods and water. Survey meters read either in roentgens/hour or milliroentgens/hour (1,000 milliroentgens = 1 roentgen).

EFFECTIVE: 05/26/89

||13-27.5.2| Dosimeters

Dosimeters are pocket-size instruments used to measure the total beta-gamma dosage accumulated by the person wearing the dosimeter. Some dosimeters can be read at any time by the wearer (self-reading dosimeters). Other dosimeters, such as film badges are not self-reading. These latter-type dosimeters are processed in a laboratory. Dosimeter readings are normally in roentgens or milliroentgens.

EFFECTIVE: 05/26/89

||13-27.6| Significance of Detection Equipment Readings

EFFECTIVE: 05/26/89

||13-27.6.1| Roentgen

Roentgen is a standard unit of measure of the energy of X-ray or gamma radiation which is absorbed. Often the term milliroentgen, which is one thousandth part of a roentgen, is used. The following table is a listing of radiation doses and their effects.

Acute Dose (roentgens)	Probable Effect of Total Body Dose
0 to 50	No obvious effect, except possibly minor blood changes.
80 to 120	Vomiting and nausea for about 1 day in 5 to 10 percent of exposed personnel. Fatigue but no serious disability.
130 to 170	Vomiting and nausea of about 1 day, followed by other symptoms of radiation sickness in about 25 percent of personnel. No deaths anticipated.
180 to 220	Vomiting and nausea for about 1 day, followed by other symptoms of radiation sickness in about 50 percent of personnel. No deaths anticipated.

270 to 330	Vomiting and nausea in nearly all personnel on first day, followed by other symptoms of radiation sickness. About 20 percent deaths within 2 to 6 weeks after exposure; survivors convalescent about 6 months.
400 to 500	Vomiting and nausea in all personnel on first day, followed by other symptoms of radiation sickness. About 50 percent deaths within 1 month; survivors convalescent for about 6 months.
550 to 750	Vomiting and nausea in all personnel within 4 hours from exposure, followed by other symptoms of radiation sickness. Up to 100 percent deaths; survivors convalescent for about 6 months.
750 to 1000	Vomiting and nausea in all personnel within 1 to 2 hours. Probably no survivors from radiation sickness.
1000 to 5000	Incapacitation almost immediately. All personnel will be fatalities within 1 week.

EFFECTIVE: 05/26/89

13-27.7 Radiation Protection

The following factors should be considered when evaluating available protection.

(1) If all containers of radioactive material are sealed or closed and are INTACT it is unlikely that radioactive hazards are associated with the incident. Efforts should be made to protect the integrity of the containers during essential rescue, salvage and clean-up operations.

(2) If radioactive isotopes become loose from the container or are liberated by a handling accident the following

factors should be understood.

(a) DISTANCE. The distance between individuals and the isotope source appreciably decreases radiation intensity with this reduction being described by an "inverse R squared" relationship. In most cases, for example, the distance of 2 feet from the source will decrease the radiation to one-quarter its value at 1 foot; a distance of 10 feet from the source will decrease the radiation to one-hundredth its value at 1 foot.

(b) TIME. The time one spends in the radiation field should be kept to an absolute minimum. A 2-hour exposure in a radiation field will be twice as large as a 1-hour exposure.

(c) SHIELDING. Dense materials such as steel, concrete and dirt between the individual and the source can cut down the intensity of gamma radiation. Most gamma-emitting radioisotopes emit radiation of less than one million electron volts per gamma ray. Generally, the radiation may be cut in half by 1 1/2 inches of steel, 4 1/2 inches of concrete, 7 1/2 inches of earth, or 10 inches of water.

(d) CONTAINMENT. Restriction of the radioisotopes to a limited area will help to establish boundaries for the hazard. Efforts should be made to keep the radioisotopes from scattering. If there is a fire associated with an incident, high pressure hoses might break open containers and widely distribute the radioisotopes. Vehicles and individuals repeatedly entering the area could track away any radioisotopes from incidents involving spills of radioactive materials. Such travel should be limited to that which is absolutely necessary.

(3) External and/or internal hazards can be present whenever radioactive materials are found. If it is not known what the hazards are, assume both to be present. To protect against internal hazards, personnel should wear breathing masks or some type of filter system over the nose or mouth. If possible, all personnel should be kept upwind from the scene of the incident and all smoking and eating should be prohibited in the restricted area. Personnel entering the area where there is radioactive dust should be wearing disposable or washable outer clothing.

EFFECTIVE: 07/25/97

13-27.8 Emergency Procedures for Accident or Incident

(1) Keep all but essential rescue and investigative personnel away from the immediate accident scene.

(2) Report the accident or incident immediately to the nearest Department of Energy facility or military base, whichever is appropriate.

| (3) |Contact the Strategic Information Operations Center (SIOC) at FBIHQ, which will in turn contact the Hazardous Materials Response Unit (HMRU) of the Laboratory Division.|

| |(4)| Keep sightseers away - 500 yards or more, if possible.

| |(5)| Stay out of smoke or vapors if there is fire.

| |(6)| Hold people who may have been exposed to the contamination in an area for appropriate examination by emergency personnel.

| |(7)| Do not fight fires involving explosives except under the direction of an expert.

| |(8)| Do not permit the taking of souvenirs.

| |(9)| Keep unauthorized personnel from entering the scene.

EFFECTIVE: 07/25/97

| 13-28 |DELETED|

EFFECTIVE: 03/21/95

| 13-28.1 |Deleted|

EFFECTIVE: 03/21/95

| 13-28.2 |Deleted|

EFFECTIVE: 03/21/95

| 13-29 |MOVED TO 13-7.6.1|

EFFECTIVE: 07/25/97

| 13-29.1 |Moved to 13-7.6.1|

EFFECTIVE: 07/25/97

| 13-29.2 |Moved to 13-7.6.1|

EFFECTIVE: 07/25/97

13-29.3 Moved to 13-7.6.1

EFFECTIVE: 07/28/97

13-30 COMPUTER ANALYSIS AND RESPONSE TEAM (CART)

EFFECTIVE: 02/28/97

13-30.1 General Information

(1) Since 1984, when the FBI Laboratory began examining computer-based evidence, the widespread use of computers and the rapidly developing technology of computer systems, have combined to dramatically increase the volume and complexity of computer evidence seized by FBI Agents. Today, FBI Agents routinely encounter computers in cases dealing with health care fraud, child pornography, terrorism, murder, drugs, financial institution fraud, public corruption, and in almost every other investigative classification for which the FBI is responsible.

(2) A real danger exists that well-intentioned efforts on the part of untrained field investigators can affect important evidence and may either render it unavailable to the investigator or inadmissable at the time of trial. Another danger is that the FBI will incur some civil liability for damage or destroyed computer data belonging to a subject or a third party. In 1992, the Laboratory Division's Computer Analysis and Response Team (CART) was formed to address these problems.

(3) The primary mission of CART, whether in the field or in the Laboratory, is to provide the investigator who encounters computer evidence with reliable, comprehensive, and timely

information and technical support necessary to the investigation and prosecution of the case. These mission objectives are met through a mutually supporting task organization consisting of:

(a) A state-of-the-art forensic capability comprised of computer scientists and engineers, CART, centrally located in the Laboratory Division;

(b) A network of specially trained and equipped Field Examiners (FEs), assigned to selected field offices and serving regional requirements.

In a typical case:

1. The case Agent who expects to encounter computer-based information (usually in executing a search warrant) consults with an FE who is trained and equipped to handle most situations. The FE will determine whether or not he/she can operate independently or needs CART HQ assistance.

2. At the search site, the CART Examiner will determine what computer systems should be seized and brought back to the office for examination. If the warrant does not allow the seizure of equipment, the CART Examiner should be able to copy the data onto medium suitable for examination at the field office. CART HQ will be on stand-by to offer consultation should unsuspected circumstances be encountered.

3. After the equipment is seized and transported to the field office, the FE will conduct triage to determine if the examination can be handled in the field office or if all, or part, must be sent to the Laboratory Division for examination. Every effort will be made to examine the evidence in the field office.

4. The FE in consultation with the case Agent will determine what data is necessary from the seized computer and in what format to best present the data.

5. The FE will recover the necessary data using techniques and protocols developed by CART and provided to the FE by CART. These utilities reside on specialized hardware platforms which have also been provided to the FE by CART. The examiner will be familiar with these procedures and trained in their use under CART direction.

6. At trial, the FE will be able to describe and defend his/her actions. If questions arise regarding the protocols used, CART will provide, when needed, experts who can explain CART's protocols.

(4) FEs are assigned to serve regions. These regions represent the best allocation of resources based on analyses of evidence submissions to CART and in consultation with the Criminal Investigative Division (CID) concerning investigative priorities.

EFFECTIVE: 02/28/97

13-30.2 Authorization/Approval for Conducting Exams/Searches (See MIOG, Part II, 13-30.4.)

(1) No action with respect to original computer evidence should be taken without consulting with one of the certified Computer Analysis and Response Team (CART) Examiners on the field list or CART at FBIHQ. In addition, no review of computer evidence should be performed without the supervision and/or consultation of a CART examiner.

(2) The following guidelines govern requests for CART support:

Any Agent who requires an examination of computer evidence or requires search assistance must contact their regional Field Examiner (FE). During emergency situations, if an FE is not able to be contacted, the CART Program Manager or Unit Chief should be contacted. After hours, contact CART through the FBIHQ switchboard operator. All requests for search assistance or computer examinations must be forwarded as a lead to the appropriate FE by an electronic communication (EC) or teletype. The EC should be sent to the field office of the FE and the Laboratory Division, Attention: CART. The first CASE ID# must be 66-HQ-C1155003 with the second CASE ID# as the substantive Universal Case File Number (UCFN). The EC should be titled "Computer Analysis and Response Team, Field Examiner Operations." If desired, the title of the case may be included as a dual-captioned title or included in the synopsis field of the EC. Whenever possible, FEs should be telephonically contacted prior to sending a written communication and that FE should be named in the attention line of the EC.

EFFECTIVE: 02/28/97

13-30.3 Responsibilities of the Case Agent

(1) The case Agent is normally the first person to realize that Computer Analysis and Response Team (CART) support may be helpful to the investigation. In this regard, it is important for the case Agent to understand certain aspects of computer evidence searches and examinations and to be fully aware of the existing policies concerning computer evidence searches and examinations. A case Agent has the following responsibilities in connection with computer evidence searches and examinations:

Before an affidavit in support of a search warrant is written, the case Agent should consult with their regional CART Field Examiner (FE) to ensure proper justification is given for seizing the equipment and software needed to properly analyze the seized computer evidence. The case Agent should attempt to identify the types of computers, networks, and operating systems in use at the location to be searched. This will help the FE to determine what assets will be needed to conduct the search and process the evidence. The case Agent should advise the FE as to the types of electronic records believed to be contained on the evidence to be seized. This information is required in determining what equipment should be seized as well as how the examination of the evidence will be conducted.

(2) By providing the above information, the case Agent will maximize the results of the search warrant and ensure the forensic examination of their evidence will proceed in a quick and efficient manner.

EFFECTIVE: 02/28/97

13-30.4 Submission of Evidence

(1) When it has been determined that evidence needs to be shipped either to a regional Field Examiner (FE) or the FBI Laboratory, the evidence must be processed through the field office's Evidence Control Technician (ECT). The ECT will ensure that proper chain of custody rules are followed. For assistance in packing computer evidence for shipping, the case Agent should contact the ECT in their field office.

(2) The evidence should be accompanied by an electronic communication (EC) as described in MIOG, Part II, 13-30.2, Authorization/Approval for Conducting Exams/Searches.

EFFECTIVE: 02/28/97

13-30.5 Types of Computer Analysis and Response Team Support

(1) The Computer Analysis and Response Team (CART) can provide timely and accurate examinations of computers, diskettes, optical disks, tape backups, and other electronic media. CART can provide on-site field support as needed for execution of search warrants and examinations of computer systems which cannot be sent to a regional Field Examiner (FE) or the FBI Laboratory. CART can also provide on-site consultation with investigators and prosecutors in the development of strategies for the seizure of computer records and equipment. CART examiners will provide testimony as to examination procedures and results.

(2) In addition to the retrieval of records, CART capabilities include but are not limited to the retrieval of deleted, erased, and hidden data, the ability to break passwords and encryption schemes, and the examination of computer code to determine the effect of that code.

EFFECTIVE: 02/28/97

13-30.6 Field Examiner Program

EFFECTIVE: 02/28/97

13-30.6.1 Selection of Field Examiners

(1) Computer Analysis and Response Team (CART) Field Examiners (FEs) are selected by the CART Program Manager and scientific staff from among candidates nominated by Special Agents in Charge (SACs) based on education, training, experience, desire to participate in the program, and willingness to travel extensively while servicing needs of Bureau offices within the FE's region. Candidates with formal education in science or engineering will be preferred. Investigative skills and experience complement the forensic work and Special Agents are preferred as FEs.

(2) Selectees will have sufficient academic background and experience towards qualifications as an expert witness and to communicate technical matters effectively to nontechnical audiences. They will be technically innovative, demonstrate excellent problem-solving abilities, and be able to work independently. They will be available to devote at least 50 percent of their time to FE-related duties to ensure their special skills are used sufficiently to retain proficiency. They must meet the certification requirements of the Laboratory Division and CART and be able to serve at least two years as an FE.

EFFECTIVE: 02/28/97

13-30.6.2 Training and Certification of Field Examiners

(1) Continuous education and training will be provided by the Laboratory Division's Computer Analysis and Response Team (CART) in the form of yearly in-service courses, commercially available training at the Field Examiner's (FE) home city, unique law enforcement courses provided by such professional organizations as the International Association of Computer Investigative Specialists (IACIS) and the Federal Law Enforcement Training Center (FLETC), etc. This continuous training will be sponsored and paid for by the FBI Laboratory or Government Employees Training Act (GETA) funds as appropriate.

(2) The CART training program will provide examiners with a broad base of computer knowledge for performing effective searches and proper forensic examinations and ensure that examiners are qualified and prepared to testify in court.

(3) CART training consists of two phases. The first phase, known as the general-education phase, lasts one to two years and ensures all examiners share a common knowledge base and qualifications. The second phase, known as the continuing-education phase, allows examiners to hone their skills and gain exposure to many technologies. The continuing-education phase continues throughout the examiner's career.

(4) The general-education phase culminates when the examiner receives his/her CART certification. Certification hinges on several factors. First, the examiner must complete all of the commercial training required. Second, the examiner must demonstrate technical proficiency. FEs accomplish this during a Lab Practicum at the FBI Laboratory. Finally, the FE must successfully complete moot court at a CART In-Service.

EFFECTIVE: 02/28/97

13-30.6.3 Field Examiner Equipment

For each Field Examiner (FE), hardware and software modules are provided by the Laboratory Division. This equipment remains on the inventory of the Laboratory Division but is assigned to the individual FE. Likewise, the software is assigned to individual FEs in their own names. When an FE leaves the program his/her equipment and software will either be reassigned to another FE or will be returned to the Laboratory Division.

EFFECTIVE: 02/28/97

13-30.6.4 Field Examiner Work Space

Field Examiners (FEs) have several unique requirements for their work space. The most important requirement is a secure work space to store evidence as it is being examined. Therefore, a secure room with access controlled by the FE is preferred. There should be adequate electrical service to support simultaneous operation of several computer systems. There should also be adequate ventilation to dissipate the heat generated by multiple computer systems. A telephone line is required in the FE's space to facilitate electronic communication between the FE and Computer Analysis and Response Team (CART), FBIHQ.

EFFECTIVE: 02/28/97

13-30.6.5 Reporting Procedures for Field Examiners

Upon completion of a forensic examination, the Field Examiner is required to send an FD-302 report and any documents printed to the case Agent for inclusion into the substantive case file. A copy of the FD-302 report should also be sent to the 66-HQ-C1155003 control file.