Part 3

Processing Laboratory Identification on Movie Film

The manufacturing edge print used to codify and identify Kodak film products has a history that is fairly well documented, and all of the code marks detailed in Parts 1 and 2, above, were positively identified. Our goal was to achieve comparable documentation about the handling and identification of films during processing.

Background Search: We searched company records to locate "procedures books" giving details on the processing, handling, and identification of 8mm movie film, used at the time of the assassination, in the network of Kodak processing laboratories. However, our investigation failed to locate company developed laboratory procedures and practices in place in the early '60s. This is understandable as we recognize that laboratory film handling and processing procedures are updated with continuing product/process improvement programs, and necessary record retention programs precluded saving superseded procedures. An alternative approach was mandated.

An Investigative Approach: To gain the necessary understanding of laboratory film handling and identification practices, we decided to try to contact former employees of the Dallas processing laboratory and have them relate their recollection of the handling and identification of the Zapruder film. Further, if possible, to substantiate their recollections with samples of 1963 processed 8mm films. Thus the investigation led to an interesting step-by-step review of Mr. A. Zapruder's contact with the Kodak Dallas processing laboratory and we were able to accomplish a dual objective:

> *1. To provide a factual description of the handling and marking of the films processed by Kodak Dallas; and*
> *2. To re-enforce and descriptively clarify information and data provided to authorities by Kodak at that time in history.*

Details of the Investigation: From a historical and archival perspective, we believe it important to document the approach taken and methods used to achieve a reliable understanding of the Dallas Laboratory film handling and marking. However, for clarity and to avoid misinterpretation, we chose to order our comments as:

> *First:* To provide the results and conclusions about film handling and identification, Section A;
> *Second:* To describe the analysis of the processing identification on the Zapruder film and its first generation copies, Section B;

Third: To provide details of the investigation, including contacts with the former Dallas Laboratory personnel and their recollections, used to substantiate our analysis and conclusions, Section C.

A. The Kodak Dallas Processing Laboratory Identification and Marking of 8mm Movie Film - the results of our investigation:

Typical Customer Handling: Upon receipt of a typical customer exposed roll of 8mm Kodachrome, the laboratory would:

- Reinforce the identification on the photo dealer customer envelope with a twin-check or perforated number;
- Splice the film on to the processing machine leader or wind the film onto a larger "make-up" bulk roll for processing efficiency;
- During processing, expose a processing edge print to identify the processor and specific laboratory;
- After drying, breakdown the "make-up" bulk roll into customer units;
- Slit the double 8mm film unit to 8mm width, center splice, add about 32 inches of 8mm white opaque thread-up leader (imprinted "PROCESSED BY KODAK" in red or blue) and spool onto a 50ft. plastic return reel;
- Put the reel in the box identified to match to the film and the dealer envelope originally made out for the customer.

"PROCESSED BY KODAK "Edge Print: At the time of processing this identification is exposed within a 2mm area onto one side of the (16mm width double 8mm) film while it is on the processing machine prior to development. Kodak began identifying films processed in its laboratories following the Film Processing Consent Decree of the mid 1950's, when Kodak was no longer the exclusive processor of Kodachrome films. To identify the laboratory doing the processing, a code letter followed the term "PROCESSED BY KODAK", e.g. D for Dallas, R for Rochester, etc. plus the month and year.

As seen in the photographs that follow, the edge print, "PROCESSED BY KODAK • D (laboratory code letter) NOV 63 (month and year)", specifies the film was processed by Kodak in the Dallas laboratory during November 1963. Typically, for a roll that has had both 8mm sides run through the camera, the edge print is exposed only on the edge of the first side or half of the roll. After slitting to 8mm, this is the "heads" end, or first pictures exposed, and the printed identification repeats approximately every $6\frac{1}{2}$ inches.

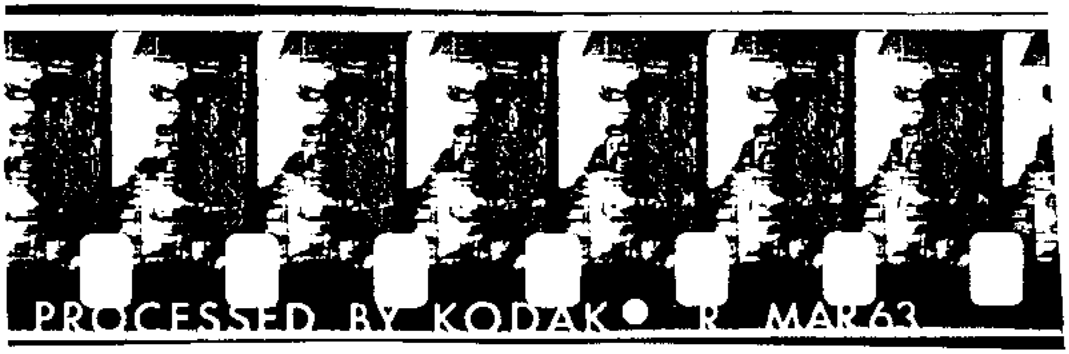
Perforated Number: The Zapruder 8mm film was identified during processing with a number - 0183 perforated vertically within the 8mm width as a part of company practice for customer identification – a control system to match the processing request or order to the film. The perforation would typically be located at the core of the returned 8mm reel, thus placing it following the scene exposed last – the customer tails end of side two. Also note that as the laboratory receives the film, this location is at the outside end of the camera spool, immediately following the integral camera thread-up leader that will be removed prior to processing.

When processing machine velocities increased to 40fpm with the introduction of Kodachrome II in 1961, it became necessary to "make-up" individual customer units into large pre-spliced rolls for processing efficiency. Prior to that time, processing velocities were 20fpm or less and film was "fed" into the process a roll at a time. The film identification perforators were located at the head of each specific processing machine. With the introduction of higher processing velocities, new numbering machines became part of that remote site procedure, however, the old numbering machines were retained. The perforator used for the Zapruder films may have been either.

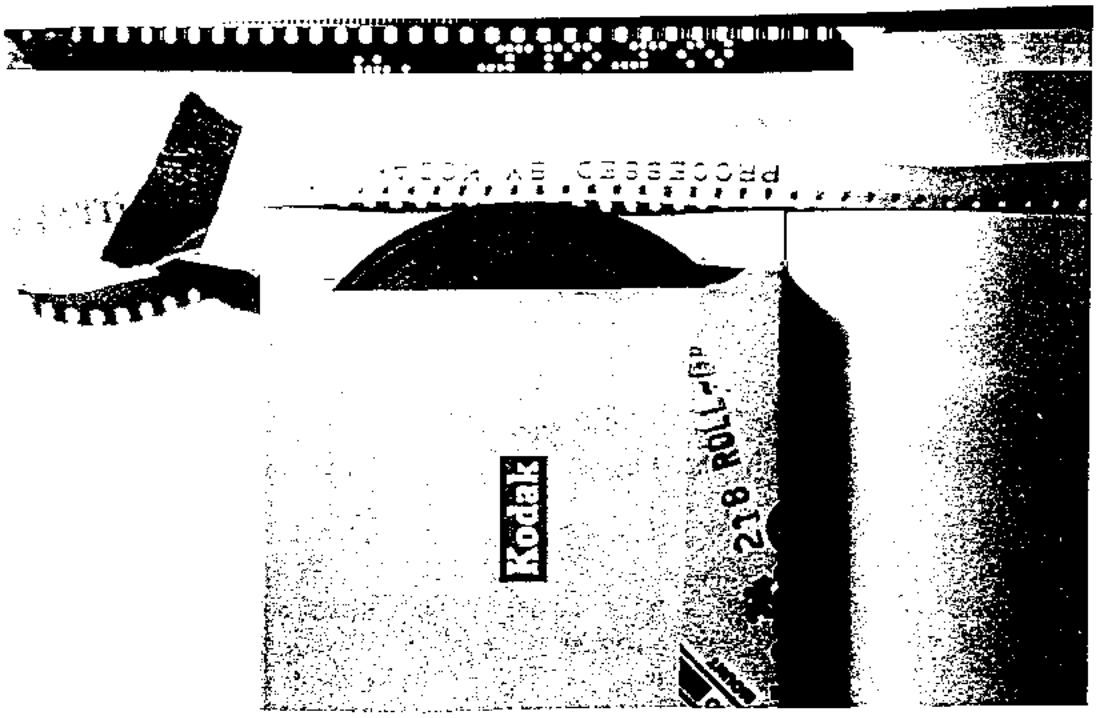
We also note that camera test films from Study 4, processed last year by Kodak Qualex Laboratory of Dallas, continue to show a similar perforated customer identification system. Figures 1-9 and 1-10 that follow, show photographic examples of film identified as Dallas and Rochester processed in1963.

Examples of Kodachrome II 8mm Movie Film Processing Edge Print and Laboratory Perforated Identification Rochester Processing Laboratory

(From Personal Home Movies File of R. J. Zavada)



Easily Readable Edge Print – Note: "R" Identifies Processing by the Rochester Laboratory



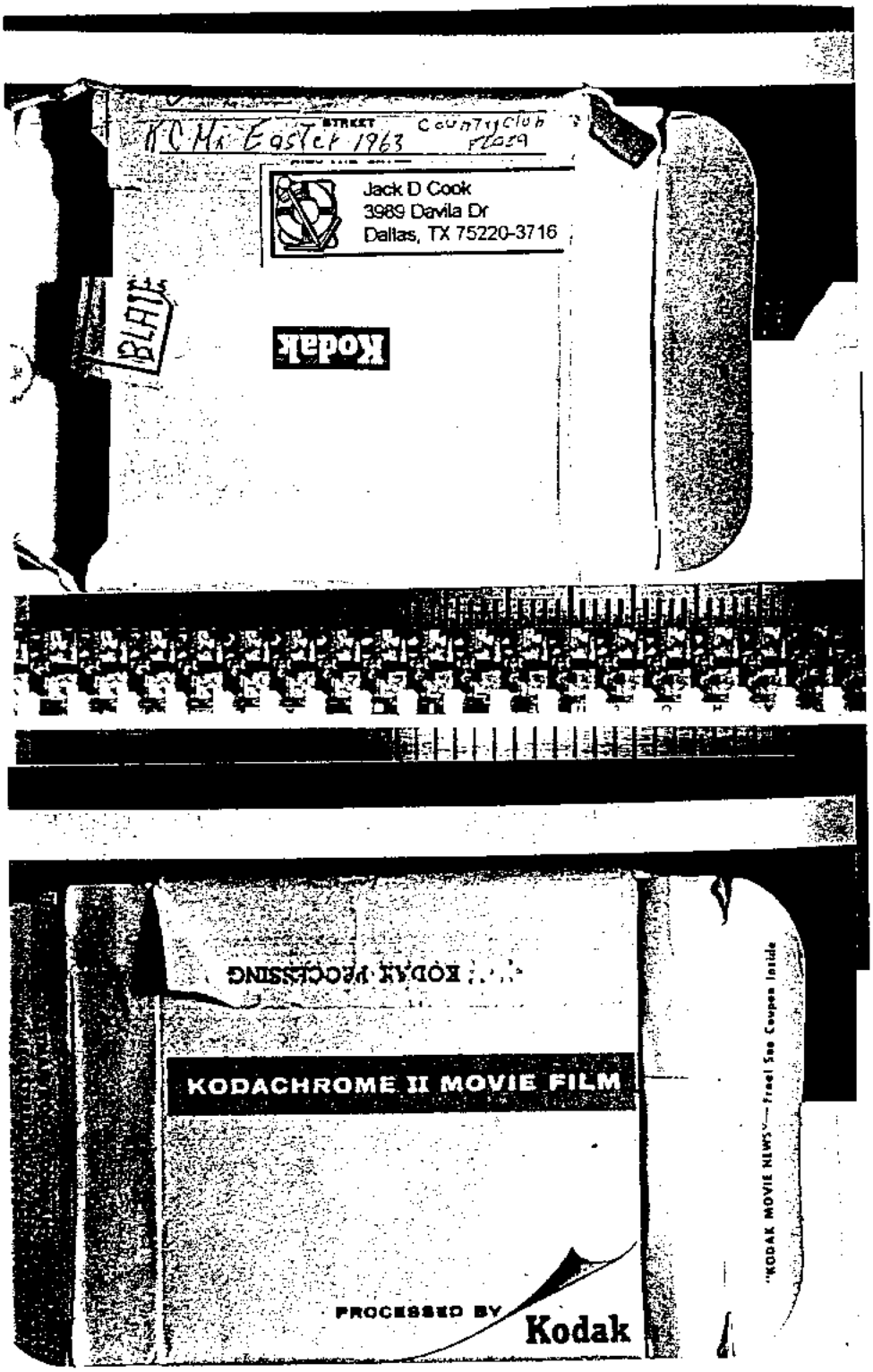
Laboratory Perforated "Customer" Identification on Both Film End and Box Lip

Marginally Readable Processing Edge Print as an Example of Range of Print Density
(Note: Frames of Images "Masked-Out" to Improve Visibility of Low Density Printing)

Figure 1-8 Example of Rochester Laboratory Processing Edge Print and Perforated Identification -- 1963.

Examples of Kodachrome II 8mm Movie Film Processing Edge Print and Laboratory Perforated Identification Dallas Processing Laboratory

(From Personal Home Movies File of Jack D. Cook, Laboratory Manager in 1963)



Laboratory Perforated "Customer" Identification 0273 on Film

Processing Edge Print – Note: "D" Identifies Processing by the Dallas Laboratory

Other Side of Film Return Reel Box - "Customer" Identification 0273 on Film End and Processing Envelope Label – Pasted to Film Return Box

Figure 1-9 Example of Dallas Laboratory Processing Edge Print and Perforated Identification – 1963.

B. Analysis of the Processing Identification Found on the Zapruder Original 8mm Film and the First Generation Copies

Zapruder "Out-of-Camera" Original Film

Perforated Number: According to the affidavit signed by P. M. Chamberlain, Jr. of the Kodak Dallas Processing Laboratory[16], the Zapruder 8mm original film was identified during pre-processing with a number "0183" perforated vertically within the 8mm width of the film as a part of a company customer identification/control system to match the processing request (or order) to the film.

As noted above, this perforated identification is typically located at the customer "tails end following the final usable scene so that it winds-up at the core of the return reel. Because "special handling" was involved, and the integral camera thread-up leader and trailer were not removed prior to processing, the handling of Zapruder's film differed from standard practice.

In our examination of the motorcade scenes of the Zapruder "Out-of-Camera" Original (camera roll side two), the perforated identification of (0183) was not seen, but should have been present at the end of the remaining blank -unexposed balance of side two if standard handling practice had been followed. We do confirm the Zapruder "Out-of-Camera" Original was identified "0183" by noting the identification present as "printed through" onto both first generation Secret Service copies made by the JAMIESON film company and located adjacent to the family scenes. (See Previous Figure 1-2)

The special handling of the film at the Dallas Laboratory did allow a non-typical placement of the perforated identification. As noted earlier, the family scenes, camera roll side one, was reported returned to the Zapruder family. Whether or not the original perforated identification section is affixed is therefore unknown to us.

A "Film Map" was prepared by Mr. Horne of the ARRB with assistance of Mr. Alan Lewis of NARA to provide a hand drawn foot-and-inch description of the scene contents and their placement within the Zapruder original and Secret Service copies 1 and 2 (copy appended). I found it necessary to challenge some of the lengths reported in Mr. Horne's analysis of Secret Service copy 1. The total footage appears to

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[16] A copy appended to this report.

exceed the 33ft of film supplied by Kodak to JAMIESON for printing. The responsibility for the footage values belongs to ARRB and NARA. My questions are recorded in my 18 June 1998 letter to Mr. Horne, (copy appended).

Processing Edge Print: The special handling of the Zapruder film closely followed customer practice except that the approximate 4 foot incorporated head and tail camera threading leader was not removed prior to processing. In the Zapruder "Out-of-Camera" original, we should expect - and do see this edge print adjacent to the family pictures, but not on the motorcade second half of the roll. This was verified and seen "printed through" onto both Secret Service copies together with the processing edge print exposed onto the copy film when it was processed, as shown below. (Figure 1-10)

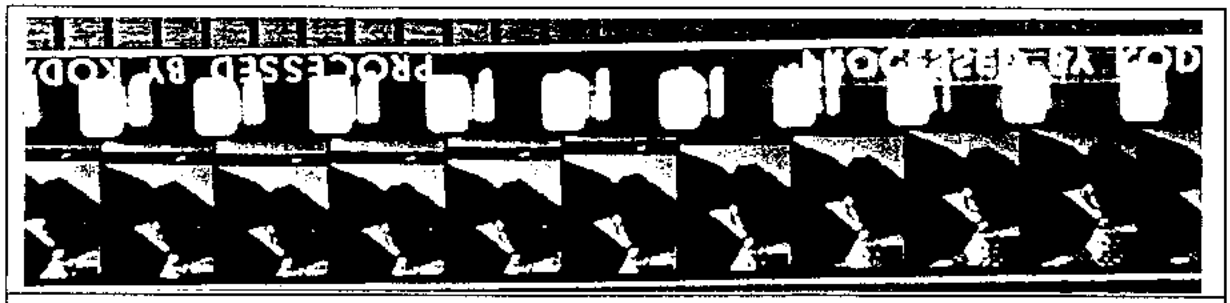

Figure 1-10 Processing Edge-Print on Secret Service Copy. Also, Printed-Through Processing Edge-Print of the Original with KODACHROME II Product Identification behind the Edge Print (Neg. 4526 frame 10)

Secret Service Copies 1 and 2

Printed Film Orientation: The three copies of the Zapruder original received a one time through exposure pass on a printer, rather than two times through a typical 8mm camera to expose each half of the film. This difference in procedure makes the JAMIESON film company's handling (how wound up or rewound) a significant factor in determining how the three Kodachrome II Type A customer size camera spools were returned to Kodak Dallas Laboratory for processing. (i.e. wound the same-as or different than, a typical camera exposed spool.) It is possible that either the middle of the Zapruder original (camera side one tails adjacent to side 2 heads) or the heads of side one adjacent to the tails of side 2 (normal practice for camera use) would have been on the outside of the roll as it was delivered to Kodak for processing. (To visualize these configurations, see Figure 1-11)

Processing Edge Print: The examination of two of the three Secret service copies reveals that an edge print as: "PROCESSED BY KODAK • D NOV 63" was printed on the family scenes first half of the roll. We also noted that the same identification "printed-through" from the Zapruder original. Therefore the film orientation and splicing to machine leader replicated typical practice. (See Figure 1-8)

Perforated Number: As noted in the introduction to Part 2, the affidavit signed by Mr. Nulty of Kodak Dallas Processing Laboratory stipulates that Kodak (during pre-processing) identified the 8mm copies of the Zapruder film with perforated numbers 0185, 0186, and 0187. As noted in the handling procedures above, the process control perforated identification is typically placed at the "tails-end" of the second side exposure. Mr. Horne's "Film Map" referenced above, indicates that the perforated identification 0186 precedes the beginning of the first half of the assassination scenes sequence. This location would indicate that the print film was received from JAMIESON, with Zapruder's original camera side two - out, as if it had passed through the camera only once. (This can also be visualized as camera side one-tails and camera side two-heads - out.) The number is in a D-max density area (black film) preceding a print-through of a splice of the original to printer thread-up leader. (See Figure 1-7)

C. *The Investigation Made to Establish Kodak Dallas Laboratory Film Handling Procedures - Details*

In the spring of 1997, the ARRB asked Mr. Milch if Kodak could affirm the format and characteristics of the processing laboratory edge-print[17]. Although I had the full cooperation of Messrs. J. Edison (Ed) Grizer and William (Bill) Lane, we were not successful in a search of company records to locate "procedures books" giving sufficiently complete details on the processing, handling, and identification of 8mm movie film, used at the time of the assassination. This is understandable as we recognize that laboratory film handling and processing procedures are updated with continuing product/process improvement programs, and necessary record retention programs precluded saving superseded procedures. An alternative/investigative approach was mandated. *(Note: This investigation was conducted prior to our Sept. 8&9, 1997 visit to NARA where we gained confirming data included in Sections A and B above.)*

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[17] The formal request was followed-up with a telephone conversation 16 June 1997 with Mr. Doug Horne to ensure we fully understood the scope of the processing laboratory information desired by the ARRB.

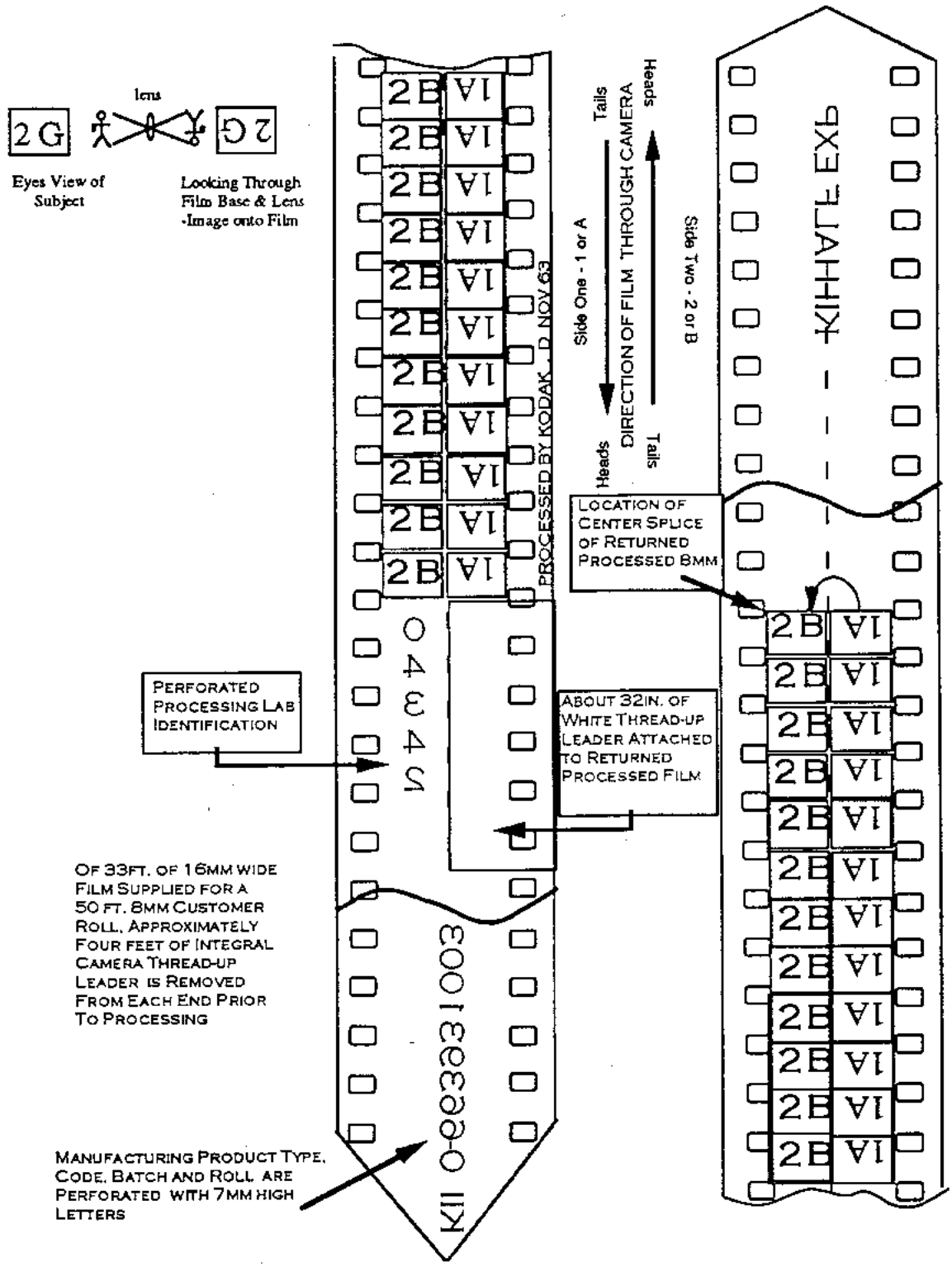

FIGURE 1- 11 VISUALIZATION GUIDE FOR IMAGE PLACEMENT & PROCESSING LABORATORY IDENTIFICATION ON 8MM CAMERA FILM

An Investigative Approach:

Rochester Processing Laboratory Film Identification Procedures: Because processing laboratory film handling followed standardized company practice, a first approach was to try to establish Rochester's practice. As a former amateur moviemaker, I pursued my film files and was able to locate several 8mm-film rolls taken in 1963, still in their customer return boxes. These films became a point-of-reference establishing processing edge-print and perforated customer identification procedures in place at the Rochester Laboratory. (See Figure 1-9)

We also searched for former processing lab personnel. We were able to contact Mr. Art Stollery, former CP&P Processing Machine Operator and subsequently Technician in the Photographic Technology Division on Processing Operations. We reviewed edge-print identification question, confirmed that the perforated identification was returned to the customer without splice and that edge printing was consistent for all customer films. Code letter "R" identified Rochester processed films. We needed to expand and formalize our approach, therefore:

A Series of Questions were Developed to focus our Investigation:

1. Who was directly involved with the handling of the A. Zapruder 8mm movie film? Are any of those individuals available? Can we contact them?
2. Because of the importance and significance of the films, what special handling or unique identification was provided?
3. Did the Zapruder films receive perforated numbering and edge print markings consistent with company practice? Or.....?
4. Were "Dallas" customer films identified in a manner similar to Rochester processed films - except the use of the letter "D" instead of the letter "R"?
5. Is it possible to obtain samples of 8mm movie film to show processing identification?
6. What was the chain-of-events leading to the processing, inspection, printing and delivery of the processed and slit 8mm films to Mr. A. Zapruder?
7. What was the (simple) organizational structure of the Dallas laboratory personnel who came in contact with assassination film and it's processing?

Contacting Former Dallas Laboratory Employees: To gain the necessary confirmation of laboratory film handling and identification practices used in Dallas, we decided to try to contact former employees of the

Dallas processing laboratory and have them relate their recollection of the handling and identification of the Zapruder film. Because of the affidavits supplied by Kodak when the Zapruder film and its copies were processed, we had the names of several personnel present at that time. These included Mr. P. T. Chamberlain, Jr. and Mr. Tom Nulty as signatories and Mr. R. T. Blair and Mrs. Kathryn Kirby as Notary Publics[18].

Mr. Grizer's previous contacts with Phil Chamberlain, former Manager provided a place to start. Ed also identified Richard (Dick) Blair, former Customer Service Manager as a source. In my subsequent contacts with Phil and Dick, we found that several of the former Dallas employees still occasionally met for coffee and would be pleased to assist our investigation. We developed a list into a form of a simple organization chart and I also talked with former processing Machine Foremen, Messrs. Tom Nulty and Kenny Anderson[19]. Mr. Jack Cook, Laboratory Manager in 1963 was included in all correspondence[20].

Letter Requesting Confirmation: Based on the conversations held, a letter was sent June 29, 1997[21] to the former personnel to gain comments and confirmation of the edge-print and film handling procedures. We wished to ensure a careful analysis of all code or identification marks that were on, or should have been on, the Zapruder "Out-of-Camera" original and its initial copies. In that letter we established a goal and asked a few key questions:

> *Goal:* To provide a factual description of the handling and marking of the films processed by Kodak. To re-enforce and descriptively clarify information and data provided to authorities by Kodak at that time in history.
>
> *Questions for review included:*
>
> 1. Did the Zapruder films receive perforated and edge print markings consistent with customer practice? Or.....
> 2. Because of the importance and significance of the films, was special handling and unique identification provided?

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[18] Kodak often encouraged selected employees of a department to obtain Notary Public licenses.

[19] Compendious notes of these conversations are appended.

[20] Because of Jack's hearing problem, there were no telephone conversations.

[21] Copy appended.

3. Were "Dallas" customer films identified in a manner similar to Rochester processed films - except the use of the letter "D" instead of the letter "R"?
4. What was the (simple) organizational structure of the Dallas laboratory personnel who came in contact with assassination film processing?
5. What can you add?

I noted in the letter that I planned to adjust my vacation to include a couple of days in Dallas. This made it possible to setup a breakfast meeting for an in-depth review of Dallas Processing Laboratory procedures.

A Breakfast Meeting: At the meeting we reviewed the processing procedures in effect at the time of the Kennedy assassination and the processing of the A. Zapruder 8mm Movie film. Messrs.: Dick Blair, Phil Chamberlain were able to join me and Mr. J. Kenny Anderson was invited but unable to attend and Tom Nulty was on vacation. The full minutes of this meeting are appended to this report.

Prior to the meeting a letter[22] with questions (those listed above) and photographs of 1963 Rochester processing edge print and perforating practice was circulated to all. (Now shown as Figure 1-9) Earlier telephone conversations were held with Dick Blair, Phil Chamberlain, J. Kenny Anderson and Tom Nulty to established and verify that Dallas's processing edge print and film identification perforating practice paralleled Rochester's.

Responses to the questions were interwoven in a general discussion of the events of that fateful day. Phil's written recollection of the day's events contained in his late 1970's document provided the focus for our reconstruction of procedures and practices. (Copy Appended)

Our discussions did not resolve the difference in recollections of the sequence of events in that Kenny's belief that a Secret Service Agent was present and influenced processing and handling of the Zapruder film. (Kenny's remarks are appended) In my subsequent discussions with Kenny, he assured me that this was his only experience of having federal agents present at the time of processing and that the incident related to the Kennedy assassination - in summary: *"a federal official was present during processing; that the dry cabinet lights were turned*

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22 Copy appended.

off; that the edge printer may have been turned off at agent's request; and, he did not then view the film in 8mm width - but did see Zapruder's film projected as 8mm- at some time".

Subsequent to the meeting, Tom Nulty confirmed that, at their shift changeover, Kenny commented to him about the agent's request to turn off the edge-printer lights and his concern about the use of the "safe" flashlight. Notwithstanding the desirability to have achieved a common set of recollections, it is important that we have identified the respective roles played by the Dallas laboratory personnel and have recorded their beliefs.

Our discussion developed the most probable sequence of events for the processing of the Zapruder films as follows:

- Mr. Jack Cook, Laboratory Manager, had a day of vacation, placing Mr. Philip Chamberlain, Production Supervisor, in charge of the Laboratory.

- Friday afternoon, a little after one p.m., all processing activity had ceased following news of the assassination.

- When A. Zapruder arrived at the laboratory, Phil met him and Dick Blair assisted by running-off the remaining unexposed portion of side two of the film in preparation for processing. (Note: Phil believed he was alone, but the statement by Secret Service agent Sorrels stipulates that he accompanied Mr. Zapruder to Kodak.)

- The film was given to Ms. Kathryn Kirby (now deceased), whose role was to provide service for films requiring special handling. Perforation identification (Nº 0183) was most likely done at this time and then the film was given to the production foreman - J. Kenny Anderson for processing. (See Copy of Kenny's remarks Appended)

- Phil and Dick believe that there would have been no reason for the processing identification edge printer to be off. *(Note: Our subsequent visit to NARA confirmed the edge-print on the Zapruder original and two of the three copies made by JAMIESON.)*

- After processing, Phil reviewed the unslit film (one time) with Mr. A Zapruder on a Kodak processing inspection projector - 16mm width operating at twice normal speed. (This is a normal practice often used to check for any processing induced defects.)

- Mr. Zapruder requested copies be made by Kodak but was advised that The Dallas Laboratory did not have the printing equipment required and not to slit the original. Kodak then made arrangements to have his film printed by the JAMIESON film company.

- Dick Blair provided Mr. Zapruder with three 25ft rolls of Kodachrome IIA (tungsten balance) for duplication by JAMIESON. (Note: reproduction on Kodachrome Duplicating Film, 7269 would have been preferable if raw stock had been available with double 8mm perforations.)

- Per Tom Nulty's affidavit, the three rolls of KIIA film were returned to Kodak, provided perforated identification 0185, 0186 and 0187, and processed that same afternoon. In a subsequent conversation, Tom believes that the edge printer lights should have been on during the processing of the three duplicate rolls. (Examination at NARA showed they were)

- After the dupes were found satisfactory, the original film was slit to 8mm. Mr. Zapruder, possibly his attorney, Phil and several laboratory personnel viewed an 8mm film on an 8mm projector at least twice. Mr. Zapruder left with his original and three dupes and to the best of anyone's recollection no one at the Dallas lab had direct contact with Mr. Zapruder again.

Mr. Chamberlain recalls viewing a print of Mr. Zapruder's film with a Secret Service agent the following day.

Perforated Identification Numbering

In our discussion we speculated about the skip in numbering from Zapruder's original film 0183 and the first print 0185. Was the number 0184 given to another roll? No one recalls any other 8 or 16mm film being processed in the intervening hour or so that Zapruder's original was being duplicated at JAMIESON.

In the 1950's, processing velocity was about 20 ft/min. At that velocity, customer's rolls could have the processing ID card and film perforated simultaneously at the head end of the machine. The individual customer rolls would then be "broken down" following the dry cabinet. When processing velocities increased to 40+ ft/min. in the 60's, this practice was no longer possible and pre-process bulk roll make-up and post-process breakdown areas became standard practice. New perforators were incorporated. The existing perforators remained at the head end of each machine and were used sometimes when special handling was required. Phil Chamberlain speculated that the perforators at the head end could have been used for the Zapruder films, the perforator "tested" between the original and prints and because of auto-indexing to the next number, 0184 was lost.

Processing Edge Print

We agreed that the processing edge print for the Dallas Laboratory should have been the same as Rochester's (as shown in a photograph accompanying the June 29 letter - now Figure 1-9 above) except the letter "D" used in place of the letter "R". A sample of 1963 film subsequently provided by Jack Cook and our examination of the Zapruder film and its copies at NARA confirmed the practice.

Organization Chart

Dick Blair corrected the draft Organization Chart. Mr. Walter Bent, was the Sales Service Manager at that time and Dick's role was as a "Customer Correspondent". In addition Ms. Kathryn Kirby was responsible for films requiring "special handling", and Mr. Marion Russell was most likely Jack Cook's contact in Rochester. The corrected 1963-organization chart and list of our Dallas contacts are appended.

Review:

A draft of Part 3 of this report was submitted to the former Dallas Processing Laboratory personnel for comment. There was fundamental agreement to the text and remarks as presented here and only a few editorial corrections were required.

Dallas Processing Laboratory - Contacts

(See Organization Chart Appended)

Mr. John Kenny Anderson

Production Foreman in 1963 and in charge of processing the Zapruder film. Machine #2 was cleared, certified and dedicated to the processing of the Zapruder films.

Mr. Richard T. Blair

Customer Service Correspondent in 1963. Personally removed film from Zapruder's camera in preparation for processing. Subsequently provided 3 rolls of KIIA for dupes made by the JAMIESON film company.

Mr. Philip Chamberlain, Jr.

Production Supervisor in1963. In charge of lab the day Zapruder films processed because Mr. Cook had the day off. Saw and projected with Zapruder his original film and confirmed that its quality was reasonable. Also provided the affidavit for the processing and identification of the Zapruder original film.

Mr. Jack Cook

Was the first Manager of the Dallas Laboratory in early 50's and Laboratory Manager in November 1963. Not present the day the Zapruder films and copies were processed.

Mr. Tom Nulty

Production Foreman in 1963. Handled the processing of the JAMIESON KIIA prints. Identification was believed to be identical or similar to customer handling. Dallas processed edge print should have contained a "D".

Simple Organization Chart of Kodak Dallas Processing Laboratory- 1963

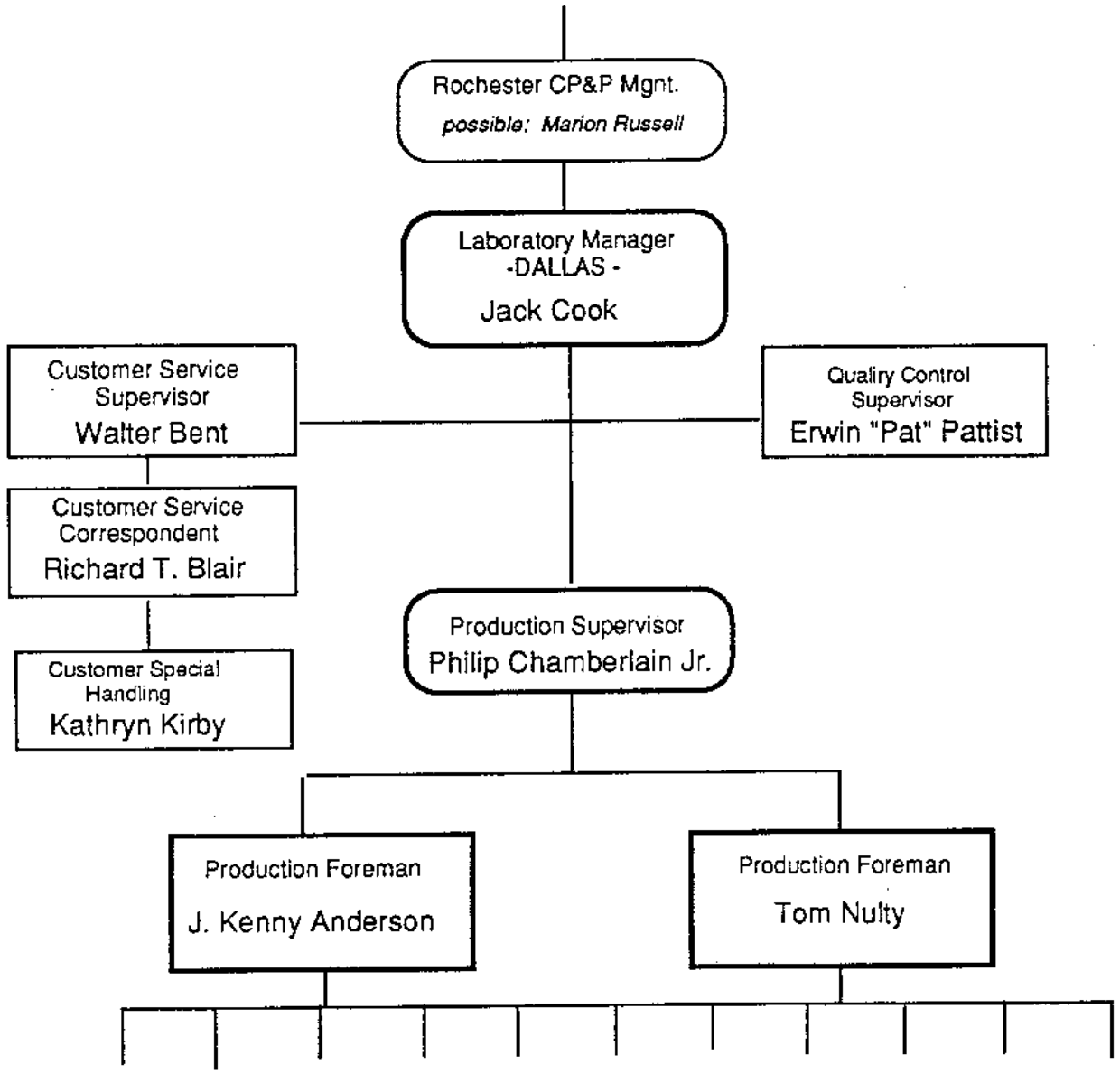

Figure 1-12