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Court Order 2

TYPE OF HEARING Special Proc
CASE NO. H 233421
Spec. EXH. NO. 47
ADMITTED IN EVIDENCE
DATE 10-6-75
~~WILLIAM G. SHARP~~, COUNTY CLERK
BY S.K. [illegible] DEPUTY

Oct 3 '75 Report

SUPERIOR COURT OF THE STATE OF CALIFORNIA
FOR THE COUNTY OF LOS ANGELES

THE PEOPLE OF THE STATE OF CALIFORNIA, Plaintiffs,

vs.

SIRHAN BISHARA SIRHAN, Defendant.

NO. A 233 421

In accordance with paragraph 2 of the Order for Retesting of Exhibits (Order #2), dated September 23, 1975, the following exhibits were marked as indicated.

People's Exhibit No.	Panel Identification No. (PN)
#38 (envelope with 2 bullets)	1 & 1a
#47 (non-fatal Kennedy)	2
#48 (fragments, fatal Kennedy)	3 & 3a
#50 (fragments, Schrade)	4
#51 (bullet, Stroll)	5
#52 (bullet, Goldstein)	6
#53 (fragments, Evans)	7
#54 (bullet, Weisel)	8
#55 (3 test bullets from Sirhan's gun)	A, B & C
Grand Jury #5B (4 test bullets from Sirhan's gun)	D, E, F & G

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The direction of twist and the number of land and groove impressions and the widths of the land impressions in Panel Identification Numbers (PN) 1 (Ex. 38), 2 (Ex. 47), 5 (Ex. 51), 6 (Ex. 52), 8 (Ex. 54), and A through G (Ex. 55 and Ex. 5B) are the same. PN 1a (Ex. 38) is the same in land impression width; however, the direction of twist of the rifling and number of lands and grooves could not be determined because of the impact damage of this specimen.

PN's 3 (Ex. 48), 3a (Ex. 48), 4 (Ex. 50), 4a (Ex. 50) and 7 (Ex. 53) are of no value for classical comparison microscopy because of their physical condition resulting from impact and/or fragmentation. (PN) 1 (Ex. 38), 1a (Ex. 38), 2 (Ex. 47), 5 (Ex. 51), 6 (Ex. 52) and 8 (Ex. 54) have rifling impressions which are available for microscopic comparison with test bullets.

The bullets, PN's 2 (Ex. 47), 5 (Ex. 51), 6 (Ex. 52) and 8 (Ex. 54) are the same with respect to caliber, weight, number and position of cannelures and copper-colored coating as caliber .22 Long Rifle bullets manufactured by Cascade Cartridges, Incorporated (CCI) and to the bullets, PN's A through G. Microscopic examinations of PN's 1 (Ex. 38), 1a (Ex. 38), 3 (Ex. 48), 3a (Ex. 48), 4 (Ex. 50), 4a (Ex. 50) and 7 (Ex. 53) were not indicative of the origin of manufacture because of their physical condition resulting from impact damage and/or fragmentation.

It is pointed out that PN 2 (Ex. 47) the non-fatal Kennedy bullet, was found to have the same number and position of cannelures as a known CCI caliber .22 Long Rifle copper-coated hollow point bullet.

It is determined from the microscopic examination of PN 2 (Ex. 47), that the number of cannelures is the same as on PN 8 (Ex. 54). The quality, and the absence of color in the "Balliscan" photographs ("Harper Ex. 47, Ex. 54" and "Hearing

Ex. 47 and Ex. 54") did not permit the determination of the number of cannelures on PN 2 (Ex. 47).

Microscopic examination of the few remaining undamaged areas of PN 8 (Ex. 54) show no significant differences in the quality of rifling impressions when compared with PN 2 (Ex. 47). Examinations of the Balliscan photographs ("Harper Ex. 47, Ex. 54" and "Hearing Ex. 47 and Ex. 54") revealed that erroneous conclusions can be reached because of surface damage to PN 8 (Ex. 54) resulting from impact. This damage could be interpreted as a difference in the quality of the rifling impressions.

Depth of land impression determination as referred to in line 2, page 8, of the Court Order dated September 23, 1975, is not a usual firearms identification examination procedure. The information which can be determined from such a measurement has no foreseeable significant value to the solution of the firearms identification problems in this case.

The requested measurements of the rifling angles or pitch in lines 7 and 8, page 8 of the Court Order dated September 23, 1975, will not be conducted until after the classical comparison microscopy examinations have been completed. At that time the value and necessity of such examinations will be determined.

A microscopic examination of (PN's) 1 (Ex. 38), 1a (Ex. 38), 2 (Ex. 47), 5 (Ex. 51), 6 (Ex. 52) and 8 (Ex. 54) and A through G (Ex. 55 and Grand Jury Ex. #5B) does not reveal any unusual amount of oxidation or deterioration of a nature which would substantially affect a classical microscope comparison examination.

Special Hearing Exhibit 10, a photomicrograph depicting a bullet comparison, was found to be a comparison between PN 2 (Ex. 47) and PN 6 (Ex. 52). This was determined by a matching of the surface defects in the photomicrograph and

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those appearing microscopically on PN 2 (Ex. 47) and PN 6 (Ex.52). On the basis of such comparisons, it does not appear that PN 2 (Ex. 47) and PN 6 (Ex. 52) have changed appreciably between June 6, 1968 (when the photomicrograph was taken) and the present date.

A microscopic examination of PN 2 (Ex. 47), PN 8 (Ex. 54), A, B, and C (Ex. 55) revealed the presence of microscopic indentations, which measure approximately .003" in diameter. These indentations do not appear in the original "Harper Balliscan photographs," taken in 1970. However, these indentations appear in the Balliscan photographs taken in April 1974 for the "Kennedy Hearing." The source of these indentations has not been determined from a microscopic examination of these impressions.

Based on the above examinations, there is no evidence to indicate that more than one gun was used to fire the items examined.

Procedures used in forming the above conclusions consisted of microscopic measurement, comparative microscopy with known standards, and weighing. The procedures were conducted in a team atmosphere with each panel member recording his own data, from personal observation, on an individual worksheet.

DATED: October 3rd, 1975

Patrick Garland

Stanton O. Berg

Cortlandt Cunningham

Ralph Turner

Alfred A. Biasotti

Charles V. Morton

Lowell W. Bradford

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SUPERIOR COURT OF THE STATE OF CALIFORNIA

FOR THE COUNTY OF LOS ANGELES

THE PEOPLE OF THE STATE OF CALIFORNIA, Plaintiffs, vs. SIRHAN BISHARA SIRHAN, Defendant.	No. A 233 421 COMPREHENSIVE JOINT REPORT OF THE FIREARMS EXAMINERS

The examiners working independently arrived at the same conclusions as follows:

1. There is no substantive or demonstrable evidence to indicate that more than one gun was used to fire any of the bullets examined.

2. Peoples' Exhibit 47 has two cannelures. Each of the bullets, Exhibits 47, 51, 52 and 54 is the same with respect to caliber, weight, number and position of cannelures and copper alloy coating as caliber .22, Long Rifle bullets manufactured by Cascade Cartridges, Incorporated, and to the bullets, Exhibits 55 and Grand Jury 5B. Exhibits 38, 48, 50 and 53 were not indicative of the origin of manufacture because of their physical condition resulting from impact damage and/or fragmentation.

3. It cannot be concluded that Exhibits 47, 52 and 54

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were fired from the Sirhan revolver. The reasons for this are that there are insufficient corresponding individual characteristics to make an identification. The poor reproducability of striae left on consecutively fired test bullets may be attributed to the following factors:

a. barrel fouling;

b. copper alloy coating;

c. impact damage and distortion;

d. cylinder alignment;

e. possible loss of fine detail over intervening years.

4. The precise measurement of rifling angle, or pitch, is not a usual firearms identification procedure and is rarely attempted. This measurement is a difficult one at best and is usually not possible unless the bullet is in good condition. The significant difficulty is the precise determination of the axis of the bullet being measured. If the bullet is deformed, damaged or mutilated (as is frequently the case with lead bullets), the measurement of rifling angle cannot be made with the accuracy necessary to be of value. It should be noted that both Exhibit 47 and 54 were damaged, with 47 receiving the most damage.

Preliminary rifling angle measurements did not disclose any significant differences in rifling angles between Exhibits 47 and 54. These results are not definitive based on the data presently available.

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5. The examiners make no recommendation for additional types of testing of the physical evidence in this case.

Dated: October 4, 1975.

PATRICK GARLAND

STANTON O. BERG

ALFRED A. BIASOTTI

LOWELL W. BRADFORD

CORTLANDT CUNNINGHAM

CHARLES V. MORTON

RALPH TURNER

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COMMENTS ON "PITCH OF RIFLING," ETC., CONTINUED

In view of the fact that the question of difference in pitch of rifling has been raised in the SIRHAN case, the panel (1) reports on work accomplished to date; and, (2) suggests recommendations for attempting to resolve this question.

The panel recognizes that the original issue was raised after Balliscan photographs of the Kennedy, Weisel, and test bullet had been studied. It is felt that final judgements should be based on an examination of original evidence, not photographs of the evidence. To this end, two panel members (Berg and Turner) conducted independent and joint measurements on known test shots fired from Sirhan's gun, the Kennedy bullet, and the Weisel bullet. These measurements indicated general or apparent agreement insofar as rifling pitch is concerned. It is pointed out, however, that the panel does not have at its disposal, tested empirical data to support or reject conclusions based on these observations. Furthermore, these measurements, while probably more accurate than measurements made from photographs, were made with a Wild reticule eyepiece which only permits estimates of angles to be an accuracy of 10-20 minutes. The panel attempted to obtain a more precise instrument, Gaertner protractor eyepiece, but could not locate one in the Los Angeles area during the period of its work. Therefore the panel recommends the following additional work:

1. Using a protractor eyepiece or equivalent equipment, measure rifling angles on a statistically adequate number of fired .22 cal. bullets from a number of guns having reportedly known differences in angle of rifling inclination. Use manufacturers' specifications for preliminary information. Analyze this data to determine what are "significant" differences.

2. Fire an adequate number of bullets, CCI .22 Mini-Mag ammunition, into suitable recovery material, using an Iver Johnson .22 cal. Cadet Model revolver. The purpose of this experiment is to attempt to produce deformation similar to that found on the Kennedy bullet. Repeat angle of inclination measurement and analyze data.

3. From this experiment, it should be possible to make statements about the value of using measurements of angle inclination to discriminate between fired bullets. / / / /