



Firearms Examination Test No. 16-527 Summary Report

This test was sent to 340 participants. Each sample set consisted of three known expended cartridge cases (Item 1) test-fired from a suspect weapon and four questioned expended cartridge cases (Items 2-5). Participants were requested to examine these items and report their findings. Data were returned from 287 participants (84% response rate) and are compiled into the following tables:

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This report contains the data received from the participants in this test. Since these participants are located in many countries around the world, and it is their option how the samples are to be used (e.g., training exercise, known or blind proficiency testing, research and development of new techniques, etc.), the results compiled in the Summary Report are not intended to be an overview of the quality of work performed in the profession and cannot be interpreted as such. The Summary Comments are included for the benefit of participants to assist with maintaining or enhancing the quality of their results. These comments are not intended to reflect the general state of the art within the profession.

Participant results are reported using a randomly assigned "WebCode". This code maintains participant's anonymity, provides linking of the various report sections, and will change with every report.

Manufacturer's Information

Each sample set contained five items: Item 1 consisted of three cartridge cases fired in the suspect's firearm. Items 2, 3, 4 and 5 each consisted of one cartridge case recovered from the scene. Winchester Train & Defend .380 Auto 95 grain FMJ ammunition was used for all five items. Participants were requested to determine which, if any, of the recovered questioned cartridge cases (Items 2-5) were fired from the same firearm as the known cartridge cases (Item 1).

The cartridge cases in Items 1, 2, 3, 4 and 5 were fired in a Colt MK IV Series 80 Mustang .380 Auto handgun (Serial number MU12363).

ITEMS 1, 2, 3, 4 and 5 (IDENTIFICATION): Multiple magazines were loaded with ammunition totaling 120 rounds in preparation for firing into a water recovery tank with the Colt MK IV Series 80 Mustang .380 Auto handgun. After the ammunition was expended, the cartridge cases were collected and packaged together as a batch in zip top bags. This process was repeated until the required number was produced. Out of each batch, the necessary number of cartridge cases were selected and inscribed with a "1" (three cartridge cases), "2" (one cartridge case), "3" (one cartridge case), "4" (one cartridge case) and a "5" (one cartridge case), then sealed into their respective jewel boxes.

SAMPLE SET ASSEMBLY: For each sample set, Items 1, 2, 3, 4 and 5 were placed in a sample pack box. This process was repeated until all of the sample sets were prepared. Once verification was completed, the sample packs were sealed with evidence tape and initialed "CTS."

VERIFICATION: During test production, 10% of the cartridge cases from each batch were selected and intercompared to confirm that markings were consistent within each batch. Laboratories that conducted the predistribution examination of the completed sample sets reported the expected identifications.

Release Date of Manufacturer's Information:

Summary Comments

This test was designed to allow participants to assess their proficiency in a comparison of expended cartridge cases. Participants were provided with four questioned expended Winchester Train & Defend .380 Auto 95 grain FMJ cartridge cases (Items 2-5) which they were requested to compare with three known expended cartridge cases (Item 1) of the same manufacturer fired in the suspect's weapon, a Colt MK IV Series 80 Mustang .380 Auto handgun. For each sample set, Items 2, 3, 4 and 5 cartridge cases were fired in the same firearm as the Item 1 known cartridge cases. (Refer to Manufacturer's Information for preparation details.)

In Table 1 Response Summary, 271 of 287 (94%) responding participants identified Items 2, 3, 4 and 5 as having been fired from the same firearm as the Item 1 test-fired cartridge cases. Four participants reported inconclusive for Items 2, 3, 4 and 5 as having been fired from the same firearm as the Item 1 test-fired cartridge cases. Three participants identified Items 2, 4 and 5 and either eliminated or were inconclusive for Item 3 as having been fired from the same firearm as the Item 1 test-fired cartridge cases. Two participants identified Items 2, 3 and 4 and either eliminated or were inconclusive for Item 5 as having been fired from the same firearm as the Item 1 test-fired cartridge cases. Two participants identified Items 2, 3 and 5 and either eliminated or were inconclusive for Item 4 as having been fired from the same firearm as the Item 1 test-fired cartridge cases. One participant identified Items 2 and 3 and was inconclusive for Items 4 and 5 as having been fired from the same firearm as the Item 1 test-fired cartridge cases. One participant identified Items 3 and 4 and either eliminated or was inconclusive for Items 2 and 5 as having been fired from the same firearm as the Item 1 test-fired cartridge cases. One participant identified Items 4 and 5 and eliminated Items 2 and 3 as having been fired from the same firearm as the Item 1 test-fired cartridge cases. One participant identified Items 2 and 5 and eliminated Items 3 and 4 as having been fired from the same firearm as the Item 1 test-fired cartridge cases. The remaining participant identified Item 5 and eliminated Items 2, 3 and 4 as having been fired from the same firearm as the Item 1 test-fired cartridge cases.

Examination Results

Were any of the questioned expended cartridge cases (Items 2-5) discharged from the same firearm as the known expended cartridge cases (Item 1)?

TABLE 1

WebCode	Item 2	Item 3	Item 4	Item 5	WebCode	Item 2	Item 3	Item 4	Item 5
244KW6	Yes	Yes	Yes	Yes	4EWDB	Yes	Yes	Yes	Yes
26VFQD	Yes	Yes	Yes	Yes	4EZ3TP	Yes	Yes	Yes	Yes
29VWPF	Yes	Yes	Yes	Yes	4FVLUQ	Yes	Yes	Yes	Yes
2BJ3LJ	Yes	Yes	Yes	Yes	4PWABF	Yes	Yes	Yes	Yes
2EJEAJ	Yes	Yes	Yes	Yes	4TUYKM	Yes	Yes	No	Yes
2KRQBP	Yes	Yes	Yes	Yes	4U94EE	Yes	Yes	Yes	Yes
2MW9KE	Yes	Yes	Yes	Yes	6269VL	Yes	Yes	Yes	Yes
2THFUJ	Yes	Yes	Yes	Yes	64TRZD	Yes	Yes	Yes	Yes
3JBW8U	Yes	Yes	Yes	Yes	68R3VD	Yes	Yes	Yes	Yes
3MBAM8	Yes	Yes	Yes	Yes	6BUZHE	Yes	Yes	Yes	Yes
3N36GF	Yes	Yes	Yes	Yes	6C3EG8	Yes	Yes	Yes	Yes
3V2UQK	Yes	Yes	Yes	Yes	6DETB9	Yes	Yes	Yes	Yes
3VLBDM	Yes	Yes	Yes	Yes	6DHHDK	Yes	Yes	Yes	Yes
3WWAAG	Yes	Yes	Yes	Yes	6M6EG7	Yes	Yes	Yes	Yes
3Y4R9D	Yes	Yes	Yes	Yes	6RVT28	Yes	Yes	Yes	Yes
3ZVPQ8	Yes	Yes	Yes	Yes	6RZ9E8	Yes	Yes	Yes	Yes
42LAW3	Yes	Yes	Yes	Yes	6TB9B3	Yes	Yes	Yes	Yes
4344WD	Yes	Yes	Yes	Yes	6U346B	Yes	Yes	Yes	Yes
44D6QB	Yes	Yes	Yes	Yes	6UJKQH	Yes	Yes	Yes	Yes
46ANRD	Yes	Yes	Yes	Yes	6ZDD9D	Yes	Yes	Yes	Yes
48DGEB	Yes	Yes	Yes	Yes	72KWNZ	Yes	Yes	Yes	Yes

TABLE 1

WebCode	Item 2	Item 3	Item 4	Item 5	WebCode	Item 2	Item 3	Item 4	Item 5
78MB4B	Yes	Yes	Yes	Yes	9ZY89D	Inc	Inc	Inc	Inc
78RJHP	Yes	Yes	Yes	Yes	A4YQYH	Yes	Yes	Yes	Yes
7K9H6H	Yes	Yes	Yes	Yes	A8UNY9	Yes	Yes	Yes	Yes
7T74FQ	Yes	Yes	Yes	Yes	A8VCQK	Yes	Yes	Yes	Yes
7TQUK4	Yes	Yes	Yes	Yes	A8WE8C	Yes	Yes	Yes	Yes
838X69	Yes	Yes	Yes	Yes	AAJUUC	Yes	Yes	Yes	Yes
83CF38	Yes	Yes	Yes	Yes	ABVRTG	Yes	Yes	Yes	Yes
8A933J	Yes	Yes	Yes	Yes	AKF439	Yes	Yes	Yes	Yes
8A9EB8	Yes	Yes	Yes	Yes	ALWZU9	Yes	No	Yes	Yes
8B6L6K	Yes	Yes	Yes	Yes	AM9RWA	Yes	Yes	Yes	Yes
8JUFU3	Yes	Yes	Yes	Yes	AN4AXC	Yes	Yes	Yes	Yes
8KBM4Q	Yes	Yes	Yes	Yes	AY2C62	Yes	Yes	Yes	Yes
8KTLCH	Yes	Yes	Yes	Yes	B4BPMZ	Yes	Inc	Yes	Yes
8NP6G2	Yes	Yes	Yes	Yes	BC6WD6	Yes	Yes	Yes	Yes
8NQZZ8	Yes	Yes	Yes	Yes	BHCJ3F	Yes	Yes	Yes	Yes
8RPGC2	Yes	Yes	Yes	Yes	BJKKZ8	Yes	Yes	Yes	Yes
8W3CZC	Yes	Yes	Yes	Yes	BNXGMW	Yes	Yes	Yes	Yes
8WK8HD	Yes	Yes	Yes	Yes	BP6VU3	Yes	Yes	Yes	Yes
8XV37Q	Yes	Yes	Yes	Yes	BPR8TB	Yes	Yes	Yes	Yes
9JT3LZ	Yes	Yes	Yes	Yes	BUNNDG	Yes	Yes	Yes	Yes
9LGC89	Yes	Yes	Yes	Yes	BXKDFH	Yes	Yes	Yes	Yes
9YLUH9	Yes	Yes	Yes	Yes	C2249X	Yes	Yes	Yes	Yes
9Z2WHG	Yes	Yes	Yes	Yes	CAF3QF	Yes	Yes	Yes	Yes

TABLE 1

WebCode	Item 2	Item 3	Item 4	Item 5	WebCode	Item 2	Item 3	Item 4	Item 5
CFZ9EA	Yes	Yes	Yes	Yes	FWVXV2	Yes	Yes	Yes	Yes
CGVQGC	Yes	Yes	Yes	Yes	FYMQ6D	Yes	Yes	Yes	Yes
CUF9BZ	Yes	Yes	Yes	Yes	FZV7CJ	Yes	Yes	Yes	Yes
CX3RCY	Yes	Yes	Yes	Yes	G4Q2QC	Yes	Yes	Yes	Yes
CXZXVD	Yes	Yes	Yes	Yes	G4TV8X	Yes	Yes	Inc	Yes
D2GXAK	Yes	Yes	Yes	Yes	G8TZ26	Yes	Yes	Yes	Yes
D2TLM6	Yes	Yes	Yes	Yes	GGDBBW	Yes	Yes	Yes	Yes
DCEKR2	Yes	Yes	Yes	Yes	GHCGUC	Yes	Yes	Yes	Yes
DHLCM8	Yes	Yes	Yes	Yes	GLTUFK	Yes	Yes	Yes	Yes
DZHK27	Yes	Yes	Yes	Yes	H8LCWW	Yes	Yes	Yes	Yes
E7HHP2	Yes	Yes	Yes	Yes	H9HJQA	Yes	Yes	Yes	Yes
E9BA28	Yes	Yes	Yes	Yes	HD93JR	Yes	Yes	Yes	Yes
EQQNEV	Yes	Yes	Yes	Yes	HKBCNY	Yes	Yes	Yes	Yes
EYNBH2	Yes	Yes	Yes	Yes	HM443Q	Yes	Yes	Yes	Yes
F8UD98	Yes	Yes	Yes	Yes	HNXWY	Yes	Yes	Yes	Yes
FBX8ZB	Yes	Yes	Yes	Yes	HXXGZ2	Yes	Yes	Yes	Yes
FFT2XC	Yes	Yes	Yes	Yes	J6BRQ8	Yes	Yes	Yes	Yes
FHRDLC	Yes	Yes	Yes	Yes	J6DM8T	Yes	Yes	Yes	Yes
FHU93W	Yes	Yes	Yes	Yes	J7BTTT	Yes	Yes	Yes	Yes
FNNV94	Yes	Yes	Yes	Yes	J8826J	Yes	Yes	Yes	Yes
FPCE4A	Yes	Yes	Yes	Yes	JL3HUG	Yes	Yes	Yes	Yes
FPD7ZW	Inc	Inc	Inc	Inc	JP3UQG	Yes	Yes	Yes	Yes
FQP626	Yes	Yes	Yes	Yes	JRB4KZ	Yes	Yes	Yes	Yes

TABLE 1

WebCode	Item 2	Item 3	Item 4	Item 5	WebCode	Item 2	Item 3	Item 4	Item 5
JYRKCA	Yes	Yes	Yes	Yes	MQMNYU	Yes	Yes	Yes	Yes
JZM4EB	Yes	Yes	Yes	Yes	MYCG4Y	Yes	Yes	Yes	Yes
K7QBH6	Yes	Yes	Yes	Yes	MZPAY2	Yes	Yes	Yes	Yes
KCV726	Yes	Yes	Yes	Yes	N3BBGU	Yes	Yes	Yes	Yes
KD3HUF	Yes	Yes	Yes	Yes	N6D9Q2	Yes	Yes	Yes	Yes
KG3UQF	Yes	Yes	Yes	Yes	NB6FBV	Yes	Yes	Yes	Yes
KHJVRV	Yes	Yes	Yes	Yes	NCG7KY	Yes	Yes	Yes	Yes
KNKCXV	Yes	Yes	Yes	Yes	NLPH23	Yes	Yes	Yes	Yes
KPKZP8	Yes	Yes	Yes	Yes	NM2E78	Yes	Yes	Yes	Inc
LFQLUZ	Yes	Yes	Yes	Yes	NQ2FHX	Yes	Yes	Yes	Yes
LHC2HY	Yes	Yes	Yes	Yes	NRTTM2	Yes	Yes	Yes	Yes
LLCE9K	Yes	Yes	Yes	Yes	P39XH6	Yes	Yes	Yes	Yes
LN4A3T	Yes	Yes	Yes	Yes	P39ZYW	Yes	Yes	Yes	Yes
LNJP7A	Yes	Yes	Yes	Yes	P4KK6K	Yes	Yes	Yes	Yes
LPYR4U	Yes	Yes	Yes	Yes	P6F38L	Yes	Yes	Yes	Yes
MDFXWL	Yes	Yes	Yes	Yes	P9VLDA	Yes	Yes	Yes	Yes
MEAN3Z	Yes	Yes	Yes	Yes	P9VUVU	Yes	Yes	Yes	Yes
MEQTKY	Yes	Yes	Yes	Yes	P9Z3B9	Yes	Yes	Yes	Yes
MEUHPV	Yes	Yes	Yes	Yes	PD7YU9	Yes	Yes	Yes	Yes
MJ4LRR	Yes	Yes	Yes	Yes	PHKJV3	Yes	Yes	Yes	Yes
MKXCW7	Yes	Yes	Yes	Yes	PHLBQP	Yes	Yes	Yes	Yes
MNEGRU	Yes	Yes	Yes	Yes	PJGUTQ	Yes	Yes	Yes	Yes
MPQ9LW	Yes	Yes	Yes	Yes	PQVM4M	Yes	Yes	Yes	Yes

TABLE 1

WebCode	Item 2	Item 3	Item 4	Item 5	WebCode	Item 2	Item 3	Item 4	Item 5
PTHEVJ	Yes	Yes	Yes	Yes	RKMYJK	Inc	Inc	Inc	Inc
PUVRXU	Yes	Yes	Yes	Yes	RLGPPY	Yes	Yes	Yes	Yes
PW2D7T	Yes	Yes	Yes	Yes	RTDJPH	Yes	Yes	Yes	Yes
PWJHQC	Yes	Yes	Yes	Yes	RX9A3U	Yes	Yes	Yes	Yes
PYQK3V	Yes	Yes	Yes	Yes	RZBDGP	Yes	Yes	Yes	Yes
Q4273T	Yes	Yes	Yes	Yes	RZFLV4	Yes	Yes	Yes	Yes
Q9B96N	Yes	Yes	Yes	Yes	T4A3L3	Yes	Yes	Yes	Yes
QAL7J7	Yes	Yes	Yes	Yes	T6KQYN	Yes	Yes	Yes	Yes
QCC9NU	Yes	Yes	Yes	Yes	T6Q3RY	Yes	Yes	Yes	Yes
QHFGKN	Yes	Yes	Yes	Yes	T9K3UM	Yes	Yes	Yes	Yes
QHZWZR	Yes	Yes	Yes	Yes	TCK9DZ	Yes	Yes	Yes	Yes
QLZ9WQ	Yes	Yes	Yes	Yes	TCM3UK	No	No	Yes	Yes
QUAT29	Yes	Yes	Yes	Yes	TREX6Q	Yes	Yes	Yes	Yes
QVMAC2	Yes	Yes	Yes	Yes	TRFLW2	Yes	Yes	Yes	Yes
QVN4UL	Yes	Yes	Yes	Yes	TRGMDT	Yes	Yes	Yes	Yes
R2QNH3	Yes	Yes	Yes	Yes	TRJ7J6	Yes	Yes	Yes	Yes
R3HMKT	Yes	Yes	Yes	Yes	TYUGNP	Yes	Yes	Yes	Yes
R4D7LU	Yes	Yes	Yes	Yes	TZPZQQ	Yes	Yes	Yes	Yes
RA4F8Z	Yes	Yes	Yes	Yes	UHK82U	Yes	Yes	Yes	Yes
RBFCEQ	Yes	Yes	Yes	Yes	ULNMUR	Yes	Yes	Yes	Yes
RCBVGR	Yes	Yes	Yes	Yes	UNBHDE	Yes	Yes	Yes	Yes
RJREMX	Yes	Yes	Yes	Yes	UVDLA4	Yes	Yes	Yes	Yes
RKHJ7J	Yes	Yes	Yes	Yes	UVRVEX	Yes	Yes	Yes	Yes

TABLE 1

WebCode	Item 2	Item 3	Item 4	Item 5	WebCode	Item 2	Item 3	Item 4	Item 5
UWPBMN	Yes	No	Yes	Yes	WYNEEM	Yes	Yes	Yes	Yes
UZNLHN	Yes	Yes	Yes	Yes	X6N3NE	Yes	Yes	Yes	Yes
V2CFYP	Yes	Yes	Yes	Yes	X6N8XG	Yes	Yes	Yes	Yes
V4LG4W	Yes	Yes	Yes	Yes	X7JMBE	Yes	Yes	Yes	Yes
V82XBF	Yes	Yes	Yes	Yes	XD3T8K	Inc	Inc	Inc	Inc
V9Y4UV	Yes	Yes	Yes	Yes	XEENTD	Yes	Yes	Inc	Inc
VARAXR	Yes	Yes	Yes	Yes	XG264K	Yes	Yes	Yes	Yes
VBLZ48	Yes	Yes	Yes	Yes	XGK7R9	Yes	Yes	Yes	Yes
VFF22E	Yes	Yes	Yes	Yes	XHC2LG	Yes	Yes	Yes	Yes
VGRDBQ	Yes	Yes	Yes	Yes	XHXM6L	Yes	Yes	Yes	Yes
VHM2HF	No	No	No	Yes	XKKAN2	Yes	Yes	Yes	Yes
VNQZVQ	Yes	Yes	Yes	Yes	XQ888H	Yes	Yes	Yes	No
VUVVXY	Yes	Yes	Yes	Yes	XV3U8X	Yes	Yes	Yes	Yes
W4WPLV	Yes	Yes	Yes	Yes	XVXLTJ	Yes	Yes	Yes	Yes
W4XGGH	Yes	Yes	Yes	Yes	XX8Q9T	Yes	Yes	Yes	Yes
W6R8MX	Yes	Yes	Yes	Yes	Y2JUWA	Yes	Yes	Yes	Yes
W77PQ3	Yes	Yes	Yes	Yes	Y4BPQH	Yes	Yes	Yes	Yes
WFQZ4N	Yes	Yes	Yes	Yes	Y6KWJP	Yes	Yes	Yes	Yes
WKLU2P	Yes	Yes	Yes	Yes	Y6MPFC	Yes	Yes	Yes	Yes
WKQBYN	Yes	Yes	Yes	Yes	Y7H8GD	Yes	Yes	Yes	Yes
WQD3EJ	Yes	Yes	Yes	Yes	Y9HFLN	Yes	Yes	Yes	Yes
WRKGKP	Yes	Yes	Yes	Yes	YC7NEX	Yes	Yes	Yes	Yes
WY3MJG	Yes	Yes	Yes	Yes	YF679J	Yes	Yes	Yes	Yes

TABLE 1

WebCode	Item 2	Item 3	Item 4	Item 5	WebCode	Item 2	Item 3	Item 4	Item 5
YM8B7U	Yes	Yes	Yes	Yes					
YN3U9V	Yes	Yes	Yes	Yes					
YRHBFE	No	Yes	Yes	Inc					
YVHG6R	Yes	Yes	Yes	Yes					
YW9LPD	Yes	No	No	Yes					
YWDZ3D	Yes	Yes	Yes	Yes					
YWN8YE	Yes	Yes	Yes	Yes					
YXLDHU	Yes	Yes	Yes	Yes					
Z4A83Y	Yes	Yes	Yes	Yes					
ZNBBWT	Yes	Yes	Yes	Yes					
ZND6DE	Yes	Yes	Yes	Yes					
ZNWWCQ	Yes	Yes	Yes	Yes					
ZQKEGH	Yes	Yes	Yes	Yes					
ZVQ94D	Yes	Yes	Yes	Yes					
ZWKYAR	Yes	Yes	Yes	Yes					

Response Summary					Participants: 287
<i>Were any of the questioned expended cartridge cases (Items 2-5) discharged from the same firearm as the known expended cartridge cases (Item 1)?</i>					
		Item 2	Item 3	Item 4	Item 5
Responses	Yes	280 (97.6%)	277 (96.5%)	278 (96.9%)	279 (97.2%)
	No	3 (1.0%)	5 (1.7%)	3 (1.0%)	1 (0.3%)
	Inc	4 (1.4%)	5 (1.7%)	6 (2.1%)	7 (2.4%)

Conclusions

TABLE 2

WebCode	Conclusions
244KW6	I compared the individual and class characteristic markings on the cartridge cases marked Item1, Item2, Item3, Item4 and Item5 using a comparison microscope and found: 2.1 The cartridge cases marked Item1, Item2, Item3, Item4 and Item5 were fired in the same firearm.
26VFQD	1. Exhibits 1 through 5 were visually examined and microscopically compared to determine if they were fired in the same firearm. 2. The Exhibit 1 cartridge cases were identified as having been fired from the same firearm as the cartridge cases in Exhibits 2, 3, 4, and 5.
29VWPF	Four fired cartridge cases marked 467017/16A2-A5 (Item 2-5), the class characteristics agree in every respect with tests (Item 1) and identification was established using microscopic comparison to compare the individual characteristic. Concluded that the Item 2-5 (467017/16A2-A5) were fired in the same firearm with Item 1 (017TC1-TC3), breech face marks correspond.
2BJ3LJ	All of the fired cartridge cases in Items 1 through 5 are the same brand, Winchester, and caliber, 380 Auto. Items 2, 3, 4 and 5 Microscopic comparisons of these cartridge cases to the test-fired cartridge cases, Item 1, revealed that they have the same class of firearm-produced marks and sufficient corresponding individual marks to conclude that they were discharged in the same firearm.
2EJEAJ	MICROSCOPIC COMPARISONS OF EVIDENCE .380 AUTO CARTRIDGE CASES ITEMS 2 THROUGH 5 WITH TEST FIRED CARTRIDGE CASES FROM K1 COLT PISTOL (ITEM 1) REVEAL THAT SUFFICIENT AGREEMENT OF INDIVIDUAL CHARACTERISTICS EXISTS TO IDENTIFY ITEMS 2 THROUGH 5 AS HAVING BEEN FIRED WITH K1 COLT PISTOL.
2KRQBP	Items 1B through 1E were identified as having been fired by the same firearm that fired Item 1A based on the agreement of class and individual characteristics.
2MW9KE	In my opinion fine matching detail was seen between the firing pin and breech face marks of the test fires from sample 1 and the samples 2,3, 4 and 5. In my opinion the gun that produced sample 1 fired samples 2,3,4 and 5
2THFUJ	The discharged cartridge cases collected from the victim's bedroom, floor near the kitchen, and the floor near the living room, items 2 through 5, were compared microscopically to the test-fired cartridge cases from the suspect's weapon, item 1, using a comparison microscope. Based on these comparisons, it was determined that the four 380 Auto caliber, Winchester brand discharged cartridge cases, items 2 through 5, were fired from the recovered handgun.
3JBW8U	Test cartridge cases from Item 1 were microscopically examined in conjunction with the cartridge cases in Items 2, 3, 4, and 5. Based on these comparative examinations and observed class and individual characteristics, it was determined that the cartridge cases in Items 2, 3, 4, and 5 (4 total) had all been fired in the same firearm that produced the cartridge cases in Item 1.
3MBAM8	Items 2, 3, 4, and 5 were identified as having been fired in the same firearm as Item 1.
3N36GF	Comparison microscope examinations were conducted on the evidence listed above. The findings of this examiner are the following: 1. Casings 2, 3, 4, and 5 were fired in the same gun as Exhibit 1, tests from the .380 Auto Colt MkIV Series 80 Mustang pistol.
3V2UQK	Item 1 includes three .380 Auto caliber cartridge cases that were reportedly test fired in a Colt MK IV Series 80 Mustang pistol and bear the headstamp of Winchester ammunition. Item 2 through Item 5 are .380 Auto caliber cartridge cases that bear the headstamp of Winchester ammunition and were identified as having been fired in the same firearm as the Item 1

TABLE 2

WebCode	Conclusions
	cartridge cases.
3VLBDM	All seven cartridge cases were fired in the same firearm.
3WWAAG	EXAMINATIONS AND CONCLUSIONS: Items 1, 2, 3, 4, and 5 (expended cartridge cases): One of the test-fired cartridge cases from Item 1 was microscopically compared to Items 2, 3, 4, and 5. Microscopic comparison of these cartridge cases revealed that they have the same class of firearm-produced marks and sufficient corresponding individual marks to conclude that they were discharged in the same firearm.
3Y4R9D	The discharged cartridge casings mentioned in ITEMS 1-2, 1-3, 1-4, and 1-5 were all fired/discharged from the .380AUTO caliber Colt, model MK IV series 80 semi-automatic pistol
3ZVPQ8	The cartridge cases described in Items 1, 2, 3, 4 and 5 (marked E-1 to E-7), are .380 Auto caliber and were fired by the same firearm.
42LAW3	Item 1 to Item 5 are positive, thus Item 1 to Item 5 were fired in the same firearm. Item 1 to Item 5 has sufficient agreement to conclude them as positive.
4344WD	RESULTS: Items 1 (test fired cartridge cases), 2, 3, 4, and 5 were microscopically examined and compared. Based on observed agreement of class characteristics and sufficient agreement of individual characteristics, Items 2, 3, 4, and 5 were identified as having been fired in the same firearm that fired Item 1 (Colt MK IV Series 80 Mustang pistol).
44D6QB	The Item 2 through Item 5 cartridge cases were identified as having been fired in the same firearm that fired the Item 1 cartridge cases. *** This report contains the opinions and interpretations of the individual whose signature appears on the report. All identifications are based on microscopic comparisons and the correspondence of individual characteristics.
46ANRD	Items 2, 3, 4, and 5 were identified as having been fired in the same firearm as Item 1.
48DGEB	Items 1, 2, 3, 4 and 5 were all discharged in the same firearm.
4EWDDB	Items #2, #3, #4, #5 were microscopically examined and compared and have been identified as having been fired in the same firearm as the Item #1 test fires.
4EZ3TP	Items 2-5 were identified as having been fired in the same firearm as the Item 1 test fires, based on agreement of the combination of individual characteristics and all discernible class characteristics.
4FVLUQ	The cartridge cases (Items 2 through 5) were fired in the same firearm as the submitted cartridge cases (Item 1) reportedly fired by a Colt, model MK IV Series 80 Mustang, 380 Auto caliber pistol.
4PWABF	Items two (2) through five (5) were fired in the submitted Item one (1) .380 Auto Colt pistol, model MK IV 80 mustang, serial number unknown.
4TUYKM	Items 2, 3 and 5 are identified as having been fired in the same firearm that fired the item 1 tests. Item 4 was fired in a 2nd unknown firearm.
4U94EE	I examined the fired cartridge cases (questioned) and known three fired cartridge cases and compared the individual and class characteristics markings transferred to them by firearm components during the firing process using a comparison microscope and found that they were fired in the same firearm. Breech face marks corresponds.
6269VL	The submitted fired cartridge cases, Items 2, 3, 4, and 5, were fired in the same firearm as the submitted tests, Item 1, reportedly fired in a Colt Model MK IV Series 80 Mustang, .380 Auto

TABLE 2

WebCode	Conclusions
	caliber semiautomatic pistol, serial number not listed.
64TRZD	The Exhibit #2, #3, #4 and #5 cartridge cases were fired in the same firearm as the Exhibit #1 cartridge cases.
68R3VD	The Exhibit #1, #2, #3, #4, and #5 cartridge cases were fired in the same firearm.
6BUZHE	Cartridge Case Evidence: Items 2, 3, 4, and 5 were fired in the same firearm as the item 1 test fires.
6C3EG8	The cartridge cases described in the items 1, 2, 3, 4 and 5, are .380 AUTO caliber and were fired from the same firearm.
6DETB9	The cartridge cases described in Items 1, 2, 3, 4 and 5, are caliber .380 AUTO and were fired from the same firearm.
6DHHDK	The expended cartridges from cases number 2, 3, 4 and 5 have been fired with the same firearm. All have been fired with the apprehended suspect's weapon which seized.
6M6EG7	Examined the four specimens marked #2 through #5. They are 380 Auto caliber discharged cartridge cases, headstamped WIN. The four cartridge cases marked #2 through #5 were microscopically compared against the three test standards marked #1, #1A and #1B and were identified as having been discharged in the same firearm.
6RVT28	"Evidence marked as Item 2, 3, 4 & 5 are four .380 Auto Winchester cartridges cases. They were fired by the same firearm. Considering the test findings, identification on the individual characteristics were found on evidence items 2, 3, 4 & 5 and the cartridge cases marked as Item 1, that are the test fires from a COLT MK IV SERIES 80 MUSTANG firearm, which means that cartridge cases marked as Item 2, 3, 4 and 5 were fired by that firearm."
6RZ9E8	Items Q2-Q5 were microscopically examined, intercompared, and compared to the test fires TF1a-c from K1. In my opinion, Q2-Q5 are all identified as being fired from K1.
6TB9B3	The fired cartridge cases collected on the crime scene Item A2 - to Item 5 were fired in the same firearm recovered from the suspect.
6U346B	The submission 2, 3, 4 and 5 cartridge cases were compared to the submission 1 Colt handgun test fires. The submission 2,3,4 and 5 cartridge cases were identified as having been fired by the Colt handgun based on the correspondence of individual characteristics.
6UJKQH	The Items 2-5 cartridge cases were compared to the Items 1A-1C cartridge cases. It was determined the Items 2-5 cartridge cases and the Items 1A-1C cartridge cases were all fired in the same weapon.
6ZDD9D	Items 2, 3, 4 and 5 were fired in the same firearm as the item 1 test fires.
72KWNZ	Exhibits and tests were fired in the same firearm.
78MB4B	The five expended cartridge cases (Items 1, 2, 3, 4 and 5) were compared one to the others to determine common origin. The cartridge cases Items 2, 3, 4 and 5, were fired by the suspect's firearm (Item 1).
78RJHP	Items 2, 3, 4 and 5 were microscopically examined in conjunction with the three (3) fired cartridge cases in Item 1. Based on these comparative examinations, it was determined that Items 1, 2, 3, 4 and 5 had all been fired in the same firearm.
7K9H6H	The cartridge cases in Items #2 through #5 were identified as having been fired in the same firearm as the cartridge cases in Item #1.

TABLE 2

WebCode	Conclusions
7T74FQ	Item: 1 Three fired 380 Auto caliber cartridge cases described as "... discharged from the suspect's weapon (known)". RESULTS: The Item 1 fired cartridge cases were physically examined and microscopically compared with each other. Matching individual identifying characteristics were found, and it was concluded that the Item 1 fired cartridge cases were all fired by the same firearm. Item: 2 One fired 380 Auto caliber cartridge case described as "... recovered from the victim's bedroom (questioned)". Item: 3 One fired 380 Auto caliber cartridge case described as "... recovered from the victim's bedroom (questioned)". Item: 4 One fired 380 Auto caliber cartridge case described as "... recovered from the floor near the kitchen (questioned)". Item: 5 One fired 380 Auto caliber cartridge case described as "... recovered from the floor near the living room (questioned)". RESULTS: Items 2 – 5 were physically examined and microscopically compared with each other and with the Item 1 fired cartridge cases. Matching individual identifying characteristics were found, and it was concluded that Items 2 – 5 were all fired by the same firearm that fired the Item 1 cartridge cases. Items 1 – 5 did not meet the current entry criteria for the Integrated Ballistics Identification System (IBIS).
7TQUK4	1. The cartridge cases described in item 1, the cartridge case described in item 2, the cartridge case described in the item 3, the cartridge case described in item 4 and the cartridge case described in item 5, are .380 Auto caliber and were fired by the same firearm.
838X69	The expended cartridge cases (Item 2, 3, 4 and 5) were discharged from the suspect's weapon.
83CF38	Items 2, 3, 4, and 5 were microscopically compared to test fired cartridge casings submitted as Item #1, a Colt MKIV series 80 Mustang .380 caliber weapon. Based on agreement in both class and individual characteristics, it is the opinion of this examiner that Items 2, 3, 4, and 5 were fired from the submitted weapon.
8A933J	The four 380 Auto cartridge cases (items 01-02 to 01-05) were identified as having been fired by the same firearm as the three 380 Auto cartridge cases (item 01-01). The firearm was reportedly a 'Colt MK IV Series .380 Auto handgun'.
8A9EB8	All items were microscopically examined and compared with the following conclusion:all the questioned expended cartridge cases(Item 2- Item 5) were discharged from the same firearm as the known expended cartridge cases(Item 1).
8B6L6K	Examination of Item 1 revealed three (3) fired 380 Automatic caliber cartridge cases reportedly test fired from the recovered Colt 380 Automatic caliber semi-automatic pistol. Examination of Items 2 through 5 revealed four (4) fired 380 Automatic caliber cartridge cases. Further examination of Items 2 through 5 with Item 1 revealed Items 2 through 5 were fired in the same firearm as Item 1.
8JUFU3	The four expended cases recovered at the scene(Items 2-5) and the three known expended cartridge cases (Item 1)have an agreement in individual characteristics and all discernible class characteristics exceeds the best agreement demonstrated between cartridge cases known to have been fired by different firearms and is consistent with agreement demonstrated by cartridge cases known to have been fired by the same firearm.
8KBM4Q	Item 1.1 is three fired Winchester brand 380 Auto cartridge cases stated to have been fired by a Colt brand 380 Auto pistol, model MK IV Series 80 Mustang. Items 1.2, 1.3, 1.4, and 1.5 are four fired Winchester brand 380 Auto cartridge cases. They were microscopically compared to the fired cartridge cases from Item 1.1. Items 1.2, 1.3, 1.4, and 1.5 were identified as having been fired by the same firearm that fired the cartridge cases from Item 1.1.
8KTLCH	Item 2-5 were fired in Item 1.

TABLE 2

WebCode	Conclusions
8NP6G2	The item 1 pistol is functional as received. Test cartridge cases fired from item 1 pistol were microscopically compared to the item 2-5 cartridge cases. Comparisons determined that there are sufficient individual characteristics present on both the test cartridge cases and items 2-5 to identify item 1 pistol as having fired items 2-5.
8NQZZ8	The evidence in items 1 - 5 was analyzed by physical and microscopic examination. The four (4) fired 380 caliber cartridge cases in items 2, 3, 4, and 5 were determined to have been fired in the same weapon as the three (3) fired 380 caliber cartridge cases in item 1.
8RPGC2	All cartridge cases has been fired out of the same, or rather has been discharged from the same firearm.
8W3CZC	Items 1-5 These cartridge cases have been compared microscopically with each other. Based on the agreement of all discernible class characteristics and a sufficient agreement of corresponding individual characteristics they have been identified as having been fired in the same firearm.
8WK8HD	A microscopic examination and comparison of the evidence described above revealed the following: Cartridge cases (2 through 5) and TESTFIRES (1, 1, and 1)are identified as having been fired from the SAME gun based on the observed agreement of their class characteristics and sufficient agreement of their individual characteristics.
8XV37Q	Items #1 through #5 were microscopically examined and compared. Based on the observed agreement of their class characteristics and sufficient agreement of their individual characteristics, Items #1 through #5 are identified as having been fired in the same firearm.
9JT3LZ	The firearm handgun pistol .380 auto, Colt MKIV Series 80 Mustang, discharged the item #2, item #3, item #4, and item #5.
9LGC89	The seven 380 AUTO cartridge cases contained in Items 1-5 were fired in the same firearm.
9YLUH9	Items 2 through 5 were fired in the same .380 Auto Colt MKIV Series 80 Mustang pistol as Item 1.
9Z2WHG	The four expended cartridge cases recovered by the police at the scene were fired in the Colt MK IV Series 80 Mustang .380 Auto handgun seized from the suspect.
9ZY89D	3. On 2016-11-14 during the performance of my official duties I received an unsealed evidence bag with number PA4001435426 from Case Administration of the Ballistics Section, containing the following: 3.1 Three (3) 9mm Short calibre fired cartridge cases marked "463833/16" each and "T1.1", "T1.2", "T1.3" respectively. 3.2 Four (4) 9mm Short calibre fired cartridge cases marked "463833/16" each and "2", "3", "4" and "5" respectively. 4. The intention and scope of this forensic examination comprise the following: 4.1 The examination and identification fired cartridge cases. 4.2 Microscopic individualization of fired cartridge cases. 5. I examined the fired cartridge cases mentioned in paragraphs 3.1 and 3.2 and compared the individual and class characteristics markings on them using a comparison microscope and found: 5.1 It cannot be determined if the cartridge cases mentioned in paragraph 3.2 were fired of were not fired in the same firearm or in the firearm that fired the cartridge cases mentioned in paragraph 3.1.
A4YQYH	Items A1-1-1, A1-1-2, A1-1-3, A1-2, A1-3, A1-4, and A1-5: The items A1-1-1, A1-1-2 and A1-1-3 fired cartridge cases are consistent in class characteristics with the items A1-2, A1-3, A1-4 and A1-5 questioned cartridge cases. Questioned Items A1-2, A1-3, A1-4 and A1-5 were compared to known items A1-1-1, A1-1-2 and A1-1-3. Items A1-1-1, A1-1-2, A1-1-3, A1-2, A1-3, A1-4 and A1-5 each a Winchester .380 Auto cartridge case were identified as having been fired in the same firearm.

TABLE 2

WebCode	Conclusions
A8UNY9	Items 1 through 5 fired cartridge cases were microscopically compared to one another. Based on agreement of all discernible class characteristics and sufficient agreement of individual characteristics, all seven fired cartridge cases were identified as having been fired by the same firearm. The three fired cartridge cases in item 1 were reportedly fired by a Colt MK IV Series 80 Mustang 380 Auto caliber handgun. Therefore, item 2 through 5 were identified as having been fired by the Colt brand handgun which was used to fire the cartridge cases in item 1.
A8VCQK	Items 2-5 were identified as having been fired in the same firearm as the test fires, Item 1, based on agreement of the combination of individual characteristics and all discernible class characteristics.
A8WE8C	Through microscopic comparisons, items 1-2-1, 1-3-1, 1-4-1, and 1-5-1 were identified to an item 1-1-1 test fire as having been fired by the same firearm. This identification conclusion is based on sufficient similarities of the patterns of microscopic markings (individual characteristics) observed between each evidence cartridge case and the test fire to which it was compared.
AAJUUC	Item 2, 3, 4, 5 were all fired in same firearm that fired test fires Item 1 (suspect Colt pistol).
ABVRTG	The Items 2 through 5 fired 380 Auto cartridge cases and the Item 1 test fired 380 Auto cartridge case were examined and microscopically compared to each other. The results are that the Items 2 through 5 were fired in the same firearm as the Item 1 test fired cartridge case.
AKF439	ITEMS #2, 3, 4, AND 5 WERE FIRED IN THE SAME FIREARM AS ITEM #1.
ALWZU9	After comparison, it appears: The first expended cartridge case recovered from the victim's bedroom (item 2) and the expended cartridge cases respectively recovered from the floor near the kitchen (item 4) and near the living room (item 5) were discharged from the suspect's weapon Colt MK IV series 80 Mustang .380 Auto (item 1). The second expended cartridge case recovered from the victim's bedroom (item 3) was fired by an another automatic weapon.
AM9RWA	The cartridge cases in Items 2 through 5 were determined to have been fired from the same firearm as the cartridge cases in Item 1.
AN4AXC	Submission # 001-2 through 001-5 were microscopically compared to submission #001-1-1 and were identified as having been fired in the Colt, model MKIV Series 80 Mustang, 380 Auto caliber semi-automatic pistol.
AY2C62	The fired cartridge cases submitted as items 2, 3, 4, and 5 exhibit matching microscopic data to the set of tests (item 1). The quality and quantity of matching microscopic data exceeds what would be expected from two different firearms. Therefore, the opinion of this examination is that the exhibits 2, 3, 4 and 5 were fired in the same firearm that created test set #1.
B4BPMZ	2. I examined the exhibits mentioned: Item 1, Item 2, Item 3, Item 4 and Item 5 and compared the individual - and class characteristic markings transferred to them by the firearm components during the firing process using a comparison microscope and found: 2.1 The cartridge cases marked Item 2, Item 4 and Item 5 were fired in the same firearm as the cartridge cases marked Item 1. 2.2 It could not be determined if the cartridge case marked Item 3 was or was not fired in the same firearm as the cartridge cases marked Item 1.
BC6WD6	The discharged cartridge casings mentioned in items 1-2, 1-3, 1-4, and 1-5 were fired by the same weapon (.380 Auto caliber Colt, model MK IV Series 80 Mustang semi-automatic pistol) which was used to fire the discharged cartridge casings in item 1-1 (test fires A, B, C)
BH CJ3F	The four 380 Auto caliber cartridge cases (2 - 5) were fired in the Colt model MK IV Series 80 Mustang pistol.

TABLE 2

WebCode	Conclusions
BJKKZ8	2.1 The fired cartridge case marked Item 2 to Item 5 were fired in the same firearm as the fired test cartridge cases marked Item 1. (Breech face marks correspond). 2.2 They have the same class characteristics and individual characteristics. The individual characteristics are the unique marks that can distinguish it from all other objects.
BNXGMW	The cartridge cases marked 2, 3, 4 and 5 were fired in the same firearm as the three test cartridge cases marked as 1.
BP6VU3	All four cartridge cases in question (item 2-4) were fired from the seized Colt MK IV Series 80 Mustang ("item 1").
BPR8TB	ITEM 2, 3, 4 AND 5 WERE DISCHARGED FROM THE SAME PISTOL WHICH DISCHARGED THE KNOWN THREE CARTRIDGE CASES (ITEM 1) (COLT MK IV SERIES 80 MUSTANG .380 AUTO HADGUN).
BUNNDG	Item A1-1 was compared to items A1-2, A1-3, A1-4 and A1-5. Items A1-1, A1-2, A1-3, A1-4, and A1-5 each a .380 Auto caliber, Winchester fired cartridge cases, were identified as having been fired in the same firearm.
BXKDHf	Cartridge Case Analysis: Methodology - Comparison Microscopy. Items 2, 3, 4 and 5, the cartridge cases, were fired in the same firearm as Items 1A, 1B and 1C, the cartridge cases identified to be discharged from the suspect's weapon, based upon corresponding class and individual microscopic characteristics.
C2249X	The examination revealed a close morphology, size and location correspondence among microstriations stamped on ITEM-1 and ITEM-2/5. Therefore, we can affirm beyond any doubt, that the cartridge cases questioned were fired using the suspect's firearm.
CAF3QF	Items 2 - 5 were fired in the same firearm as Item 1 (identification). This conclusion was verified by Firearms Examiner (name).
CFZ9EA	The below listed spent cartridge cases were microscopically examined and compared with test cartridge cases fired by the Colt MK IV Series 80 Mustang 380 Auto pistol, Lab Evidence # 001-A1. Numerous corresponding individual characteristics were observed. Therefore, it is my opinion that the below listed spent cartridge cases were fired by this firearm. Lab Evidence # 001-A2, Item Description: Spent Winchester 380 Auto cartridge case #2. Lab Evidence # 001-A3, Item Description: Spent Winchester 380 Auto cartridge case #3. Lab Evidence # 001-A4, Item Description: Spent Winchester 380 Auto cartridge case #4. Lab Evidence # 001-A5, Item Description: Spent Winchester 380 Auto cartridge case #5
CGVQGC	The cartridge cases in Items #2 through #5 were identified as having been fired in the same firearm as the cartridge cases in Item #1.
CUF9BZ	The cartridge cases described in the items 1,2,3,4 and 5, are .380 Auto caliber and were fired by the same firearm.
CX3RCY	The comparison of cartridge case item 2, 3, 4 and 5 with the samples of item 1, were found microscopic characteristics of identity between them, that is to say they were pierced by the same firearm.
CXZXVD	Fcc-1 thru Fcc-4 (Item 2 thru 5) were fired in Pistol P1 (Item #1).
D2GXAK	The evidence cartridge cases (Lab Items 2-5) were examined and microscopically compared to the cartridge cases reportedly test fired from the Colt pistol (Lab Item 1). All four evidence cartridge cases were identified as having been fired by the Colt pistol.

TABLE 2

WebCode	Conclusions
D2TLM6	I examined the fired cartridge cases mentioned in paragraph 3.1 and compared the individual and class characteristics markings on them using a comparison microscope and found: 5.1 The cartridge cases mentioned in paragraph 3.1 marked "2", "3", "4" and "5" respectively were fired in the same firearm that discharged the cartridge cases marked "1A", "1B", "1C".
DCEKR2	1. Exhibits 2, 3, 4 and 5 (four .380 Auto Winchester brand cartridge cases) were visually examined and microscopically compared to Exhibit 1 (three test-fired cartridge cases from a Colt MK IV Series 80 Mustang .380 Auto pistol). 2. Microscopic examination disclosed that Exhibits 2, 3, 4 and 5 were fired from the same firearm as Exhibit 1 (test fires).
DHLCM8	The items 2 through 5 cartridge cases were identified as having been fired in the same firearm as item 1 cartridge cases.
DZHK27	Item 2,3,4,5 expanded cartridge case were fired from the firearm which was used to fire item 1 expanded cartridge case.
E7HHP2	ITEM 2, ITEM 3, ITEM 4, ITEM 5 ARE (9MM SHORT CAL,) AND THEY ARE FIRED FROM THE SAME WEAPON WHICH FIRED THE THREE CARTRIDGE CASES IN ITEM 1 .
E9BA28	[No Conclusions Reported.]
EQQNEV	A) Expended cartridge cases identified as P-2 (Item 2), P-3 (Item 3), P-4 (Item 4) and P-5 (Item 5) are specific caliber three hundred eighty auto (.380 AUTO) cylindrical and rimless shaped cartridge cases and their was fired by Colt Mk IV series 80 Mustang .380 Auto handgun.
EYNBH2	The four (4) .380 AUTO caliber discharged cartridge casings mentioned in items 1-2, 1-3, 1-4, 1-5, were all fired from the .380 AUTO caliber Colt pistol, which fired the test samples mentioned in item 1-1 (three .380 AUTO caliber discharged cartridge casings)
F8UD98	Items 2, 3, 4 and 5 were fired in the same firearm as Item 1 based on matching class and individual characteristics, including matching breechface impression marks.
FBX8ZB	I made an examination of the three test fired cartridge cases using a comparison microscope. This type of examination allows two objects to be viewed simultaneously so that microscopic marks left behind on the fired cartridge cases during discharge can be compared and assessed. This was done to determine which marks on the test fired cartridge cases replicates. I then performed a similar comparison between these test fired cartridge cases and the questioned fired cartridge cases, Item 2 to Item 5. As a result of this examination I formed the following opinion: Item 2 to Item 5 were discharged by the same firearm that discharged the test fired cartridge cases, Item 1
FFT2XC	Cartridge Case Analysis: Methodology - Comparison Microscopy. Items 2, 3, 4 and 5, the cartridge cases, were fired in Item 1, the Colt pistol, based upon corresponding class and individual microscopic characteristics. NIBIN: A test fired cartridge case from Item 1, the Colt pistol, will be entered into NIBIN. The results of NIBIN entries and searches will be the subject of a separate report.
FHRDLC	? The Item 2 through 5 fired 380 Auto caliber cartridge cases and the Item 1 test fired 380 Auto cartridge cases were examined and microscopically compared to each other with the following results: Items 1 through 5 were identified as having been fired in the same unknown 380 Auto caliber firearm.
FHU93W	Four questioned cases marked as a Item No 2, No 3, No 4, No 5 were discharged from the same pistol as a three cartridge cases shot from the suspect's weapon (known). All the cases were discharged from the same weapon.
FNNV94	Items 2 to 5 were fired in the same firearm as the item 1 test fires.

TABLE 2

WebCode	Conclusions
FPCE4A	Examination under a comparison microscope LEICA FSC showed that the 4 expended cartridge cases "item 2", "item 3", "item 4" and "item 5" were fired with the COLT MK IV series 80 MUSTANG .380 ACP seized from the suspect.
FPD7ZW	[No Conclusions Reported.]
FQP626	The fired cartridge cases, Items 001-02 through 001-05, were discharged from the same firearm that discharged Items 001-01A through 001-01C.
FWVX2	Comparison microscope examinations were conducted and it is the finding of this examiner that Items 2 through 5 were fired in the submitted .380 Auto Colt pistol, model MKIV Series 80 Mustang.
FYM6D	Items 2-5 were fired in the same firearm as Item 1 (identification). This conclusion was verified by Firearms Examiner (name).
FZV7CJ	The Item #2, #3, #4 and #5 spent 380 auto caliber "win" cartridge cases all matched the test cartridge cases of, and were discharged by, the colt pistol that discharged the item #1 test cartridge cases. The identification were based on the agreement of individual characteristics observed during a microscopic comparison.
G4Q2QC	The Item 2 through Item 5 fired cartridge cases and the Item 1 test fires were examined and microscopically compared to each other with the following results: Items 2 through 5 were identified as having been fired in the Item 1 firearm.
G4TV8X	Item 2, 3 and 5 had microscopic details that matched those on item 1 thus can be concluded as having been fired by the suspect firearm. Item 4 did not have enough microscopic details thus being inconclusive.
G8TZ26	Items 1, 2, 3, 4, and 5 were identified as having been fired by the same firearm.
GGDBBW	Comparative examinations of Item 1 (three 380 Auto caliber cartridge cases reportedly test fired from the suspect's firearm) against Items 2 through 5 (four 380 Auto caliber cartridge cases) showed the presence of matching features. This indicates Item 1 and Items 2 through 5 were fired by the same firearm.
GHCGUC	Microscopic comparison was conducted with the following results: FCC-1 thru FCC-4 were fired in the same firearm, P-1.
GLTUFK	Items 2, 3, 4 & 5 were microscopically compared to each other and to Items 1 (test shots obtained from the Colt MK IV handgun). Items 2, 3, 4 & 5 were identified as having been fired in the recovered Colt MK IV handgun, Item 1, based on sufficient correspondence of individual characteristics observed in the breech face impression.
H8LCWW	1. Exhibit 1 (three Winchester brand .380 Auto cartridge cases) and Exhibits 2 through 5 (four Winchester brand .380 Auto cartridge cases) were visually and microscopically examined. Microscopic comparison of Exhibits 1 - 5 revealed that all seven cartridge cases were identified as having been fired in the same firearm.
H9HJQA	The class characteristics match and the individual characteristics of the items 1 are distinctive with the items 2, 3, 4, and 5.
HD93JR	Item #2, Item #3, Item #4 and Item #5 spent cartridges were microscopically compared. The firearm marks on Item #2, Item #3, Item #4 and Item #5 were agreed to each other. Hence, Item #2, Item #3, Item #4 and Item #5 spent cartridges were fired from one firearm. Item #2, Item #3, Item #4 and Item #5 spent cartridges were microscopically compared with test

TABLE 2

WebCode	Conclusions
	spent cartridges of Item #1. According to the comparison results firearm marks on Item #2, Item #3, Item #4, Item #5 and Item #1 spent cartridges were agreed to each other. Hence, Item #2, Item #3, Item #4 and Item #5 spent cartridges had been fired from suspected firearm seized by the police (Colt MK IV series 80 Mustang .380 Auto handgun)
HKBCNY	The fired cartridge cases marked 466951/16 A2-A5 were fired in the same firearm as the the tests marked 951 TC1-TC3 - Breechface marks correspond.
HM443Q	I examined the fired cartridge cases mentioned in 3.1 and 3.2 and compared the individual and class characteristics markings in them using a comparison microscope and found: The cartridge cases mentioned in 3.1 and 3.2 were fired in the same firearm.
HNXXWY	Items 1-2 thru 1-5 were all fired by the weapon recovered from the suspect, a .380AUTO caliber Colt MK IV Series 80 Mustang pistol.
HXXGZ2	Item 1 is three test fires from a .380 Auto caliber Colt pistol, Model MK IV Series 80 Mustang. Item 2 through Item 5 are .380 Auto caliber cartridge cases that bear the handstamp of Winchester ammunition. The Item 2 through Item 5 cartridge cases were identified as having been fired in the Item 1 pistol.
J6BRQ8	The fired 380 AUTO cartridge cases from Items 2, 3, 4 and 5 share similar class characteristics with those of the test fired cartridge cases from Item 1. They exhibit some individual characteristics of value for a comparative analysis. They were further microscopically examined and compared with test fired cartridge cases from Item 1. Based on the observed agreement of their class characteristics and sufficient agreement of their individual characteristics, Items 2, 3, 4 and 5 were identified as having been fired in the same firearm as the test fired cartridge cases from Item 1.
J6DM8T	Items 2, 3, 4 and 5 were identified as having been fired in the same firearm, (firearm-known Item 1).
J7BT TT	On examination and comparison, I found that, the characteristic marks of the known expanded cartridges 'Item 1' and the characteristic marks of the recovered expanded cartridge 'Item 2' to 'Item 5' to be similar. Therefore, I am of the opinion that the recovered expanded cartridges 'Item 2' to 'Item 5' were discharged from the same firearm that discharged the expanded cartridges 'Item 1'.
J8826J	Test shots from the suspect weapon (Item 1) were compared microscopically with the recovered fired cartridge cases, Item 2, Item 3, Item 4 and Item 5. The results of these examinations are identifications. There are sufficient quantity and quality of matching individual characteristics on the breech face impressions of Items 2,3,4 and 5 to indicate these four cartridge cases were fired in the submitted firearm, Item 1.
JL3HUG	Item 1 - Three (3) .380 Auto caliber fired cartridge cases bearing the Winchester headstamp (samples from Colt pistol) (1) Item 2 - One (1) fired cartridge case (2) Item 3 - One (1) fired cartridge case (3) Item 4 - One (1) fired cartridge case (4) Item 5 - One (1) fired cartridge case (5) The submitted specimens marked as Items 2, 3, 4, and 5 were examined and identified as fired .380 Auto caliber cartridge cases bearing the Winchester headstamp. Items 2 through 5 were microscopically compared to Item 1 sample cartridge cases. As a result of microscopic examination, it was concluded that Items 2 through 5 were identified as having been fired in the same firearm that fired Item 1.
JP3UQG	Item 1 - Three (3) test fired 380 Auto caliber cartridge cases Item 2 - One (1) fired cartridge case Item 3 - One (1) fired cartridge case Item 4 - One (1) fired cartridge case Item 5 - One (1) fired cartridge case The submitted specimens marked as Items 2 through 5 were examined

TABLE 2

WebCode	Conclusions
	and identified as four (4) fired 380 Auto caliber cartridge cases bearing the Winchester headstamp. Items 2 through 5 were microscopically inter-compared and also compared to Item 1. As a result of microscopic examination, Items 2 through 5 were identified as having been fired in the same firearm as Item 1.
JRB4KZ	ITEMS #1 - #5 were compared microscopically with each other. There is agreement of all discernible class characteristics and sufficient agreement of individual characteristics for identification. They were fired in the same firearm.
JYRKCA	Items 2-5 were fired in the same firearm as Item 1 (identification). This conclusion was verified by Firearms Examiner (name).
JZM4EB	Items #2 through #5 (four WIN {Winchester} .380 Auto fired cartridge cases) were examined and microscopically compared on 12/05/2016. Based on agreement of all discernible class characteristics and sufficient agreement of individual characteristics, Items #2 through #5 (four .380 Auto fired cartridge cases) were positively identified as having been fired in Item #1 (Colt pistol).
K7QBH6	The exhibit fired cartridge cases (labelled 2 - 5) were discharged in the Colt Mk IV Series 80 Mustang (Labelled 1)
KCV726	I conducted a microscopic examination of test fired cartridges from Item 1 and compared them to exhibit cartridge case Items 2, 3, 4 & 5. I was able to make an identification of all four listed exhibits when compared to Item 1. There is agreement of all discernible class characteristics and sufficient agreement of individual characteristics. In my opinion the fired cartridge cases of Items 2, 3, 4 & 5 were discharged in the same firearm that produced the test fired cartridges of Item 1.
KD3HUF	Item 1 - The cartridge cases matched each other and were discharged by the same firearm. the identification were based on the agreement of individual characteristics observed during a microscopic comparison. Items 2-5 - the cartridge cases matched the Item 1 cartridges cases and were discharged by the same firearm reportedly a 380 Auto caliber Colt MK IV series 80 Mustang pistol. the identifications were based on the agreement of individual characteristics observed during a microscopic comparison.
KG3UQF	Item #1A and Items #2, #3, #4, and #5 were microscopically examined and compared. Based on the observed agreement of their class characteristics and sufficient agreement of their individual characteristics, Items #2, #3, #4, and #5 are identified as having been fired from the Item #1 Firearm.
KHJVRV	Based on agreement of discernible class characteristics and sufficient corresponding individual detail, the fired 380 Auto caliber cartridge cases from Items 1-5 were identified as having been fired in the same firearm.
KNKCXV	Microscopic examination and comparison of the cartridge cases (Items 1, 2, 3, 4 and 5) reveals sufficient evidence to conclude that the cartridge cases Items 2, 3, 4 and 5, were fired in the suspect's weapon Item 1 (Pistol Colt MK IV Series 80 Mustang .380 Auto)
KPKZP8	The cartridge cases in Items 2, 3, 4 & 5 were fired in the same gun that fired the cartridge cases in Item 1.
LFQLUZ	On comparison, I found the characteristic marks on the expended cartridge cases Item 2, Item 3, Item 4 and Item 5 to be similar to the characteristic marks on the expended cartridge cases discharged from the suspect's weapon, Item 1. Therefore, I am of the opinion that the expended cartridge cases Item 2, Item 3, Item 4 and Item 5 were fired from the suspect's weapon.

TABLE 2

WebCode	Conclusions
LHC2HY	Submissions #1-2 through #1-5 underwent direct microscopic comparison to submission #1-1A. Submissions #1-2 through #1-5 were positively identified as having been fired in the same firearm as submission #1-1A.
LLCE9K	I examined the fired cartridge cases and compared the individual and class characteristics markings transferred to them by firearm components during the firing process using a comparison microscope and found that the cartridge cases mentioned were fired in the same firearm.
LN4A3T	Item #2: The cartridge case was compared to the test-fired exemplars obtained from the Colt, model MK IV Series 80 Mustang pistol, Item #1. Sufficient corresponding individual breech face signatures were observed to conclude that the cartridge case was fired within the Colt pistol. Item #3: Same description, result and conclusion as Item #2. Item #4: Same description, result and conclusion as Item #2. Item #5: Same description, result and conclusion as Item #2.
LNJP7A	The test fired cartridge cases in Item 1 were microscopically examined in conjunction with the four (4) fired cartridge cases in items 2, 3, 4 and 5. Based on these comparative examinations, it was determined that all four (4) cartridge cases in Items 2, 3, 4 and 5 had been fired in the same firearm as the test cartridge cases in Item 1.
LPYR4U	the items 1-2, 1-3, 1-4, & 1-5 .380 Auto discharged cartridge casings listed above were fired from the same source weapon, a .380 Auto caliber Colt Model MK IV Series 80 Mustang semi-automatic pistol which was used to fire the item 1-1.
MDFXWL	The cartridge cases described in the items 1,2,3,4 and 5,are .380 Auto caliber and were fired by the same firearm.
MEAN3Z	Item 1 includes three .380 Auto caliber cartridge cases that were reportedly test fired in a Colt MK IV Series 80 Mustang pistol and bear the headstamp of Winchester ammunition. Item 2 through Item 5 are .380 Auto caliber cartridge cases that bear the headstamp of Winchester ammunition and were identified as having been fired in the same firearm as the Item 1 cartridge cases.
MEQTKY	Items 2-5 were fired in the same firearm as the item 1 test fires (test fired in a pistol, 380 Automatic caliber, Colt, MK IV Series 80 Mustang, no serial number given).
MEUHPV	Using the Bayesian approach in casework we consider our findings under two hypotheses. For the 'unknown' cartridge cases item 2,3,4 and 5 the three 'known' cartridge cases item 1, the following hypotheses were considered: H1: The questioned cartridge cases Item 2,3,4 and 5 were discharged from the firearm that the three cartridge cases Item 1 were discharged from. H2: The questioned cartridge cases Item 2,3,4 and 5 were discharged from another firearm of the same caliber and with the same class characteristics as the firearm that the three cartridge cases Item 1 was discharged from. The likelihood of the findings under the two hypotheses is estimated. The likelihood ratio is expressed on a verbal scale: Approximately equally probable (LR = 1-2). Slightly more probable (LR = 2-10). More probable (LR = 10-100). Much more probable (LR = 100-10,000). Very much more probable (LR = 10,000-1,000,000). Extremely more probable (LR = >1,000,000). The findings of the examination regarding the cartridge cases item 2 and 3 are very much more probable if Hypothesis 1 is true, then Hypothesis 2 is true. The findings of the examination regarding the cartridge cases item 4 and 5 are extremely more probable if Hypothesis 1 is true, then if Hypothesis 2 is true.
MJ4LRR	After examining Items #2,3,4, and 5, I certify that this evidence is AMMUNITION as defined by [legislation]. After microscopic comparison, it was determined that Items #2,3,4, and 5 were

TABLE 2

WebCode	Conclusions
	fired from Item #1 based on agreement of class characteristics and sufficient agreement of individual characteristics of the breech face marks.
MKXCW7	FCC #2 thru #5 (Item #2, #3, #4 and #5) were fired in P1 (Item #1).
MNEGRU	Microscopic comparison examination of evidence of cartridge cases Items 2, 3, 4 and 5 with test fired cartridge cases Item 1 has revealed: Item 2, 3, 4 and 5 were fired in the suspect's pistol (the firearm used to produced the items 1).
MPQ9LW	A MICROSCOPIC COMPARISON EXAMINATION OF EVIDENCE CARTRIDGE CASES Q1 THROUGH Q4 (ITEMS 2 THROUGH 5) CALIBER .380 AUTO AGAINST TEST FIRED CARTRIDGE CASES FROM K1 COLT .380 AUTO PISTOL (ITEM 1) HAS REVEALED THAT SUFFICIENT AGREEMENT OF INDIVIDUAL CHARACTERISTICS EXIST TO IDENTIFY Q1 THROUGH Q4 (ITEMS 2-5) AS HAVING BEEN FIRED WITH K1 COLT PISTOL (ITEM 1).
MQMNYU	Items 2, 3, 4 and 5 each consisted of one fired cartridge case in .380 Auto calibre. Microscopic examination showed that the fired cartridge cases in Items 2, 3, 4 and 5 were discharged in the same firearm as the test fired cartridge cases in Item 1.
MYCG4Y	The cartridge cases mentioned in 3.1-3.2 were fired in the same.
MZPAY2	Item 2, Item 3 Item 4 and Item 5 were fired in the same firearms as Item 1.
N3BBGU	I microscopically compared Items 1A, 1B, and 1C to each other. I identified Items 1A, 1B, and 1C as being fired in the same firearm based on sufficient agreement of individual characteristics within the breech face marks and firing pin impression. I microscopically compared Items 2, 3, 4, and 5 to Item 1A. I identified Items 2, 3, 4, and 5 as being fired in the same firearm as Item 1A based on sufficient agreement of individual characteristics within the breech face marks and firing pin impression.
N6D9Q2	Items 2, 3, 4, and 5 were microscopically examined and identified as having been fired in the Item 1 firearm based on agreement of the combination of individual characteristics and all discernible class characteristics.
NB6FBV	MICROSCOPIC COMPARISON EXAMINATIONS OF EVIDENCE CARTRIDGE CASES ITEM 2 THROUGH ITEM 5 WITH TEST FIRED CARTRIDGE CASES ITEM 1 REVEALED: SUFFICIENT AGREEMENT OF INDIVIDUAL CHARACTERISTICS EXISTS TO IDENTIFY ITEMS 2 THROUGH ITEM 5 AS HAVING BEEN FIRED WITH THE SAME FIREARM AS THE TEST FIRED CARTRIDGE CASES. SUFFICIENT AGREEMENT Sufficient agreement is related to the significant duplication of random toolmarks as evidence by a pattern or combination of patterns of surface contours. "Sufficient agreement" exists between two toolmarks means that the agreement is of a quantity and quality that the likelihood another tool could have made the mark is so remote as to be considered a practical impossibility.
NCG7KY	Items 2 through 5 were fired in the same firearm as the item 1 test fires (pistol, 380 Auto caliber, Colt, model MK IV Series 80 Mustang).
NLPH23	The three fired .380 Auto caliber cartridge cases (Item 1-01-AA) were identified as having been fired in the same firearm due to consistent and reproducible individual marks. Item 1-01-AA was identified as having been fired in the same firearm as the other four submitted .380 Auto caliber cartridge cases (Items 1-02-AA thru 1-05-AA) due to consistent and reproducible individual marks. The four submitted .380 Auto caliber cartridge cases (Items 1-02-AA thru 1-05-AA) were identified as having been fired in the same firearm as one another and in the same firearm as Item 1-01-AA due to consistent and reproducible marks.
NM2E78	Item: 1 Three fired 380 Auto caliber cartridge cases, listed as "...from the suspect's weapon..."

TABLE 2

WebCode	Conclusions
	<p>Item: 2 One fired 380 Auto caliber cartridge case, listed as "...from the victim's bedroom..."</p> <p>Item: 3 One fired 380 Auto caliber cartridge case, listed as "...from the victim's bedroom..."</p> <p>Item: 4 One fired 380 Auto caliber cartridge case, listed as "...from the floor near the kitchen..."</p> <p>Item: 5 One fired 380 Auto caliber cartridge case, listed as "...from the floor near the living room..."</p> <p>RESULTS: The three fired cartridge cases submitted as Item 1 and Items 2 – 5 were physically examined and microscopically compared with each other. From these examinations and comparisons, the following conclusions were reached: Matching individual identifying characteristics were found on the three fired cartridge cases submitted as Item 1. It was concluded that these cartridge cases were fired by the same firearm. Matching individual identifying characteristics were found on Items 1 – 4. It was concluded that Items 1 – 4 were fired by the same firearm, and these Items may be suitable for identification with the firearm in which they were fired and/or other fired cartridge cases. Due to insufficient corresponding individual identifying characteristics, the results of microscopic comparisons of Item 5 with Items 1 – 4 were inconclusive. While some similarities were noted, it could not be determined whether Item 5 was fired by the firearm that fired Items 1 – 4 or by another similar firearm. Item 5 may be suitable for identification with the firearm in which it was fired and/or other fired cartridge cases. Items 1 – 5 were not entered into the Integrated Ballistics Identification System (IBIS) as they did not meet current criteria for entry.</p>
NQ2FHX	2.1 The cartridge cases mentioned in 3.2 were fired in the same firearm that fired cartridge cases mentioned in 3.1
NRTTM2	In spite of the lack of repetitive characteristic marks from the fire pin, however we can compare breech face marks on the primer of each cases. These marks have got same characteristics on the 4 questioned cases (Item 2 to item 5) and also on the case fired in the Colt MK IV Series 80 Mustang (Item 1). So, we can say that the 4 questioned cases (Item 2 to Item 5) were fired in the Colt MK IV Series 80 Mustang pistol (Item 1).
P39XH6	Items 2-5 were identified as having been fired in the same firearm as Item 1 base on agreement of the combination of individual characteristics and all discernible class characteristics.
P39ZYW	Items2-->5 are fired by the same firearm that the item 1.
P4KK6K	The cartridge cases (items 2-5) were fired with (discharged from) the same firearm, model Colt MK IV Series 80 Mustang .380 Auto, as the known expended cartridge cases (item 1).
P6F38L	Identification was found on the individual characteristics of the toolmarks produced by the fire pin, extractor and ejector of Items 1,2,3,4 and 5, which means that all five items have been fired by the same firearm.
P9VLDA	1) Examinations showed the questioned expended cartridge cases in Items 2, 3, 4 and 5 were discharged within the same firearm as the known expended cartridge cases in Item 1.
P9VUVU	All of the submitted fired 380 Auto caliber cartridge cases, Items 1 through 5, were marketed by Winchester and had hemispherical firing pin impressions. Item 1 consisted of three cartridge cases that had reportedly been test-fired from a Colt MK IV Series 80 Mustang 380 Auto caliber pistol. I microscopically compared the submitted cartridge cases to test-fired cartridge cases from the Colt pistol. I found sufficient agreement in the individual firearm-produced characteristics, including the breechface and firing pin impressions, to conclude that all of the submitted cartridge cases had been fired from the submitted pistol. The examinations and comparisons were documented with a series of fifty digital images.
P9Z3B9	The cartridge cases were microscopically examined in conjunction with one another. Based on these comparative examinations it was determined that the four cartridge cases (Items 2-5) had

TABLE 2

WebCode	Conclusions
	all been fired by the same firearm that also fired the three cartridge cases (Item 1).
PD7YU9	Items 2-5 were microscopically compared with the Item 1 test fired specimens, finding correspondence of class characteristics and individual distinguishing characteristics. It was concluded that Items 2-5 were fired from the same firearm that fired the Item 1 test fired specimens.
PHKJV3	A microscopic examination and comparison of the submitted questioned expended casings, items #2, 3, 4, 5, to the Known expended casings, item #1, displayed a sufficient agreement of individual characteristics to conclude that all the submitted expended casings were fired from the same gun. (Reported to be a .380 auto caliber Colt MKIV series 80 Mustang handgun).
PHLBQP	The evidence in items 1 through 5 was analyzed by physical and microscopic examination. The four (4) expended 380 caliber cartridge cases in items 2 through 5 were determined to have been fired in the same weapon as the three (3) known expended 380 caliber cartridge cases in item 1.
PJGUTQ	Items 1 (test fired cartridge cases), 2, 3, 4, and 5 were microscopically examined and compared. Based on observed agreement of class characteristics and sufficient agreement of individual characteristics, Items 2, 3, 4, and 5 were identified as having been fired in the same firearm that fired Item 1 (Colt MK IV Series 80 Mustang).
PQVM4M	The firearm Colt model MKIV series 80 Mustang, fired the four spent cartridge cases, labeled as item #2, item #3, item #4 and item #5.
PTHEVJ	The cartridge cases described in the Item 1 and the cartridge cases described in the Items 2, 3, 4 and 5, are .380 Auto caliber and were fired by the same firearm (suspect's weapon).
PUVRXU	The known cartridge cases Item 1 and the questioned cartridge cases Item 2, Item 3, Item 4 and Item 5 have matching individual characteristics, so it is undoubtedly proved, that the cartridge cases Item 1, Item 2, Item 3, Item 4 and Item 5 were discharged from the same firearm.
PW2D7T	On 2016-11-14 during the performance of my official duties I received a sealed evidence bag with number PA4001435428 from Case Administration of the Ballistics Section containing the following exhibits: 3.1 Three (3) 9mm Short calibre fired cartridge cases marked by me "Item 1" each and "TC1", "TC2", "TC3" respectively. 3.2 Four (4) 9mm Short calibre fired cartridge cases marked by me "Item 2", "Item 3", "Item 4" and "Item 5" respectively. 4. The intention and scope of this forensic examination comprise of the following: 4.1 The examination and identification of fired cartridge cases. 4.2 Microscopic individualization of fired cartridge cases. 5. I examined the fired cartridge cases mentioned in paragraphs 3.1 and 3.2 and compared the individual and class characteristics markings on them using a comparison microscope and found: 5.1 The cartridge cases mentioned in paragraphs 3.1 and 3.2 were fired in the same firearm.
PWJHQC	Test fired cartridge cases TC1(A-C)/item 1, obtained from specimen QF1 (suspect weapon), were microscopically compared to specimens QC(2-5)/items 2-5. Specimens QC(2-5) were identified as having been fired in specimen QF1 due to sufficient agreement of individual characteristics in the breech face impression.
PYQK3V	It was determined that the cartridge cases in Items 2, 3, 4 and 5 were fired in the same firearm as the cartridge cases in Item 1.
Q4273T	Item 1 (known test fired standards) were microscopically compared to Items 2, 3, 4 and 5 (questioned items). It was determined that Items 1, 2, 3, 4 and 5 (fired cartridge cases) were all fired in the same firearm due to sufficient agreement of class and individual characteristics.

TABLE 2

WebCode	Conclusions
Q9B96N	Items #2, #3, #4, #5 were all fired from the 380 Auto Cal. Colt Mustang pistol (Items #1A, #1B, #1C) - test specimens - based on the agreement of class characteristics and patterns of sufficient corresponding individual characteristics.
QAL7J7	Items 2-5 were fired in the same firearm as Item 1 (Identification). This conclusion was verified by Firearms Examiner (name).
QCC9NU	The item #2-5 cartridge cases were fired in the same firearm as the item #1 test fired cartridge cases.
QHFGKN	Item 2, 3, 4, and 5 fired cartridge cases were fired in the same gun that fired the Item 1 fired cartridge cases.
QHZWZR	Cartridge Cases (2,3,4,5) and Test Fires (1,1,1)are identified as having been discharged from the SAME gun based on the observed agreement of their class characteristics and sufficient agreement of their individual characteristics.
QLZ9WQ	Cartridge cases (2, 3, 4, 5) and test fires (1.1, 1.2, 1.3) are identified as been fired/discharged from the same firearm based on observed agreement of their class characteristics and sufficient agreement of their individual characteristics.
QUAT29	Examinations showed that the cartridge cases Item 2, Item 3, Item 4 and Item 5, were discharged within the Colt MK IV Series 80 Mustang, .380 auto handgun.
QVMAC2	Before examination the expended cartridge cases recovered after a Shooting at a residence were marked T1 (Item 2), T2 (Item 3), T3 (Item 4)an T4 (Item 5). The cartridge cases test fired from the suspect's handgun were marked V1, V2 and V3. These cartridge cases were compared usin a Leica FSC comparison Microscope. The cartridge cases bear appropriate marks that make them suitable for comparative Analysis. Identification of the firearm used, based on These marks, appears to be possible. Based on the observed similarities in the individual characteristics of T1, T2, T3 and T4 compared to V1, V2 and V3 it is concluded that all four cartridge cases were fired from the suspect's firearm.
QVN4UL	The items 2, 3, 4 and 5 cartridge cases were microscopically compared to the Item 1 test fires and it was determined that they were all fired in the Item 1 firearm. Or the Item 2, 3, 4 and 5 cartridge cases were identified as having been fired in the same firearm as the Item 1 test fires.
R2QNH3	Items 2-5 were identified as having been fired in the same firearm as the testfires designated Item 1 based on the agreement of a combination of individual characteristics and all discernible class characteristics.
R3HMKT	Through the use of microscopic comparisons it was determined that the four cartridge cases, #'s 2-5, were fired from the Colt MKIV series 80 handgun.
R4D7LU	Items 2 through five have the same class of firearm produced marks and sufficient corresponding individual microscopic marks as item 1 to conclude that items 2 through 5 were fired in the same firearm as item 1.
RA4F8Z	The four (4) fired cartridge cases, items 1.2, 1.3, 1.4 and 1.5, were each identified as having been fired in the Colt pistol, item 1.1.
RBFCEQ	Items 2, 3, 4 and 5 were fired in the same firearm as the item 1 test fires.
RCBVGR	Items #2 - #5 have been compared microscopically with each other and with tests, Item #1. Based on the agreement of all discernible class characteristics and a sufficient agreement of corresponding individual characteristics they have been identified as having been fired in the same firearm.

TABLE 2

WebCode	Conclusions
RJREMX	Cartridge Case Analysis: Methodology - Comparison Microscopy. Item 1 (Items 1A, 1B and 1C), the cartridge cases, were identified to have been fired from a Colt MK IV Series 80 Mustang .380 Auto caliber handgun. Items 2, 3, 4 and 5, the cartridge cases, were fired in the same firearm as Items 1A, 1B and 1C, the cartridge cases, based upon corresponding class and individual characteristics. A reference from this group will be entered into NIBIN.
RKHJ7J	Item #2-5 and Item#1 are .380 caliber cartridge cases which were identified as having been fired in the same firearm
RKMYJK	The result was inconclusive
RLGPPY	The four cartridge cases marked "Item 2" to "Item 5" were fired from the same firearm that had fired the three known cartridge cases marked "Item 1A" to "Item 1C".
RTDJPH	The cartridge cases described in Items one to five are .380 Auto caliber, and were fired by the same firearm.
RX9A3U	I observed agreement of all discernable class characteristics and sufficient agreement of individual characteristics to conclude that Items 001-02 through 001-05, were fired in the pistol that was reportedly used to produce the test fires.
RZBDGP	As a result of microscopic comparisons it was established that: 1- Expended cartridges cases-items 2, 3, 4 and 5 were fired in the suspect's weapon item 1.
RZFLV4	Item 1: Three fired 380 Auto caliber cartridge cases, described as "...discharged from the suspect's weapon (known)". RESULTS: The three fired cartridge cases submitted as Item 1 were physically examined and microscopically compared with each other. Matching individual identifying characteristics were found, and it was concluded that the Item 1 cartridge cases were fired by the same firearm. These cartridge cases may be suitable for identification with that specific firearm and/or with another fired cartridge case(s). Item 2: One fired 380 Auto caliber cartridge case, described as "...recovered from the victim's bedroom (questioned)". Item 3: One fired 380 Auto caliber cartridge case, described as "...recovered from the victim's bedroom (questioned)". Item 4: One fired 380 Auto caliber cartridge case, described as "...recovered from the floor near the kitchen (questioned)". Item 5: One fired 380 Auto caliber cartridge case, described as "...recovered from the floor near the living room (questioned)". RESULTS: Items 2 – 5 were physically examined and microscopically compared with each other and with the Item 1 cartridge cases. Matching individual identifying characteristics were found, and it was concluded that Items 2 – 5 were fired by the same firearm that fired the Item 1 cartridge cases. Items 2 – 5 may be suitable for identification with that specific firearm and/or with another fired cartridge case(s). Items 1 – 5 were not entered into the Integrated Ballistics Identification System (IBIS) as they did not meet the current criteria for entry.
T4A3L3	Examinations showed that the discharged cartridge cases contained in Items 2, 3, 4 and 5 were discharged within the same firearm used to discharge the test fired cartridge cases contained in Item 1.
T6KQYN	The submitted expended cartridge cases were microscopically examined in conjunction with each other. It is our conclusion that Items 2, 3, 4 and 5 were fired in the suspect's firearm Item 1.
T6Q3RY	Cartridge case Analysis: Methodology - Comparison Microscopy. Items 2, 3, 4 and 5, the cartridge cases, were fired in the same firearm as Items 1A, 1B and 1C, the cartridge cases identified to be test fired from the suspect's firearm, based upon corresponding class and individual microscopic characteristics.

TABLE 2

WebCode	Conclusions
T9K3UM	As a result of microscopic examination and comparison it was established that: Expended cartridge case Items 2, 3, 4 and 5, were fired in the suspect's weapon Item 1.
TCK9DZ	Microscopic comparison conducted with the Following Results: Fcc-1 thru Fcc-4 were fired in P-1.
TCM3UK	Items 2(Q-1) and 3(Q-2) were not fired from the K-1 suspect's weapon. Items 4(Q-3) and 5(Q-4) were fired from the K-1 suspect's weapon.
TREN6Q	The four fired questioned cartridge cases, Items 2, 3, 4, and 5, were examined and determined to be brass 380 Auto caliber cartridge cases marketed by Winchester. The fired questioned cartridge cases were microscopically compared to the submitted test-fired cartridge cases (Item 1) from the 380 Auto caliber Colt MK IV Series 80 Mustang pistol. The test-fired cartridge cases had the same class characteristics as the questioned cartridge cases. All the questioned cartridge cases were determined to have been fired in the Colt pistol based on sufficient microscopic agreement of individual characteristics in the breech face marks. Representative digital images were taken.
TRFLW2	Items 2-5 were identified as having been fired in the same firearm as the test fires retained and referencing Items 1A-1C, based on agreement of the combination of individual characteristics and all discernible class characteristics. Item 1A will be imaged into the Integrated Ballistics Identification System (IBIS)/Brass TRAX database and any identification made from this entry will be supplemented.
TRGMDT	The below listed spent cartridge cases were microscopically examined and compared with test cartridge cases fired by the Colt 380 auto pistol, Lab Evidence # 001-A1. Numerous corresponding individual characteristics were observed. Therefore, it is my opinion that the below listed items were fired by this firearm. Lab Evidence #001-A2, Item #2, Item Description: Spent Win 380 auto cartridge case. Lab Evidence #001-A3, Item #3, Item Description: Spent Win 380 auto cartridge case. Lab Evidence #001-A4, Item #4, Item Description: Spent Win 380 auto cartridge case. Lab Evidence #001-A5, Item #5, Item Description: Spent Win 380 auto cartridge case.
TRJ7J6	The shells marked #2, #3, #4 and #5 were microscopically compared to the test fires marked #1. They are identified as having been discharged in the same firearm.
TYUGNP	Fired cartridge cases marked I2 to I5 and the Tests marked TC1 to TC3 were fired in the same firearm.
TZPZQQ	Item 2, Item 3, Item 4, Item 5 were fired from the Suspect's weapon.
UHK82U	The spent cartridge cases listed as Items 2-5 have been identified as having been fired in the same firearm as the test fired spent cartridge cases listed as Item 1.
ULNMUR	The fired cartridge cases marked "Item 2 up to 5" were fired from the same firearm with the fired cartridge cases marked "Item 1"
UNBHDE	Items marked 2-5 were fired in the firearm that fired cartridge cases marked Item 1.
UVDLA4	The four cartridge cases (Items 2, 3, 4, and 5) were fired in the same firearm as the cartridge cases from the Colt MK IV Series 80 Mustang firearm (Item 1).
UVRVEX	Based on the agreement of class characteristics, the Items 2 though 5 cartridge cases were microscopically compared to the Item 1 test fired cartridge cases from the suspect pistol. The four cartridge cases were identified as having been fired by the suspect pistol based on the agreement of individual characteristics. The significance of these identifications is based on the practical, not absolute, exclusion of all other firearms.

TABLE 2

WebCode	Conclusions
UWPBMN	In my opinion, a microscopical comparison of firing marks has shown there is sufficient agreement of class and individual characteristic markings to conclusively determine that the cartridge cases contained in items 2, 4 and 5, were fired from the same firearm as those contained in item 1. Furthermore, in my opinion, a microscopical comparison of firing marks has shown there is agreement of class characteristics markings but significant disagreement of individual characteristics markings, therefore, the cartridge case contained in item 3 was not fired in the same firearm as those contained in item 1. Therefore, two (2) guns were involved in the shooting incident.
UZNLHN	In my opinion, a microscopic comparison of firing marks has shown that there is sufficient agreement of class and individual characteristic markings to conclusively determine that the discharged cartridge cases, Items 2, 3, 4 & 5 were fired from the recovered gun (Item 1 - Test fires).
V2CFYP	Cartridge cases (2, 3, 4, 5) and test fire cartridge cases (1, 1, 1) are all identified as having been discharged from the SAME firearm based on the observed agreement of their class characteristics and sufficient agreement of their individual characteristics.
V4LG4W	The cartridge cases (items 1, 2, 3, 4, and 5) were identified as having been fired in the same firearm.
V82XBF	The cartridges cases collected from the Colt MKIV Series 80 Mustang .380 Auto Handgun, referred as item 1, were compared with those cartridge cases found at the scene, referred as items 2, 3, 4 and 5, finding identification on the individual characteristics of all five items.
V9Y4UV	Results/interpretations/opinions: Comparative examinations of Items 2-5 (four cartridge cases recovered from scene) against Item 1 (three cartridge cases test-fired from the suspect's pistol) showed the presence of matching features. This means that Items 2-5 were fired in the same firearm that fired Item 1.
VARAXR	Items 2, 3, 4, and 5 were fired in the same firearm as the item 1 test fires (Colt, model MK IV Series 80 Mustang).
VBLZ48	Test-fired Items 1 were compared microscopically with Items 2-5. These comparison results are Identifications due to the sufficient quantity and quality of matching individual characteristics in the breech face impressions. Thus, it is the opinion of this Examiner that Items 2-5 were fired in the seized Colt pistol.
VFF22E	The two questioned expended cartridge cases recovered from the victim's bedroom identified as Item2 and Item3, one questioned expended cartridge case recovered from the floor near the kitchen identified as Item 4 and one questioned expended cartridge case recovered from the floor near the living room, identified as Item 5, were discharged from the same firearm (Colt MKV series 80 Mustang .380 Auto handgun) as the three known expended cartridge cases identified as Item1.
VGRDBQ	Item 1 consisted of three fired .380 Auto cartridge cases that were reportedly fired by a Colt MK IV Series 80 Mustang pistol (suspected weapon). They were arbitrarily labeled as 1A, 1B, and 1C for examination purposes. The three cartridge cases were microscopically intercompared and found to have sufficient reproducibility of individual detail. Items 2, 3, 4, and 5 were compared to a test-fired cartridge case (1A), from the Colt pistol, using a comparison microscope. Agreement of class characteristics and individual detail sufficient for an identification were observed. Items 2, 3, 4, and 5 were fired by the Colt MK IV Series 80 Mustang pistol.
VHM2HF	Item1 and Item5 seemed to be fired from the same firearm. Item2, Item3 and Item4 seemed to

TABLE 2

WebCode	Conclusions
	be not fired from the same firearm which discharged Item1. Item2 and Item3 seemed to be fired from a second firearm. Item4 seemed to be fired from the different firearms of Item1, Item2, Item3 and Item5.
VNQZVQ	Items 2 through 5: The cartridge cases were all identified as having been fired in the suspect's firearm.
VUVVXY	All four of the submitted 380 Auto cartridge cases, items 2, 3, 4 and 5 were fired in the same weapon which fired the submitted test fires, item 1 cartridge cases.
W4WPLV	The four fired cartridge cases, Items 2-5, share physical and class characteristics with each other and the test-fired cartridge cases, Item 1. Each exhibits individual characteristics that may be of value for a comparative analysis. The test-fired cartridge cases, Item 1, and the four fired cartridge cases, Items 2-5, were microscopically examined and compared with each other. Based on the observed agreement of their class characteristics and sufficient agreement of their individual characteristics, Items 2-5 are identified as having been fired in the same pistol as the test-fired cartridge cases, Item 1.
W4XGGH	After microscopic comparison it was determined that Items #2, 3, 4 and 5 were fired from the Colt MK IV Series 80 Mustang .380 Auto Pistol based on sufficient agreement of class and individual characteristics of the breech face marks.
W6R8MX	Microscopic comparison was conducted with the following results: Fired cartridge cases, FCC-1 thru FCC-4 were fired in pistol P-1.
W77PQ3	The items 2 - 5, spent 380 auto caliber cartridge cases matched the Item 1 cartridge cases and were discharged by the same firearm. the identifications were based on the agreement of individual characteristics observed during a microscopic comparison.
WFQZ4N	The fired cartridge cases, items 1a, 1b, 1c, and 2 through 5, were identified as having been fired in the same firearm.
WKLUPP	Laboratory Items (001.B) (item 2) first Winchester brand .380 auto expended cartridge case recovered from the victim's bedroom, (001.C) (item 3) second Winchester brand .380 auto expended cartridge case recovered from the victim's bedroom, (001.D) (item 4) one Winchester brand .380 auto expended cartridge case recovered from the floor near the kitchen, and (001.E) (item 5) one Winchester brand .380 auto expended cartridge case recovered from the floor near the living room are identified as being fired by the same firearm as Laboratory Item (001.A) (item 1) test fired cartridge cases from Colt model MK IV series 80 Mustang .380 auto pistol. The items are identified as to sharing a common source because there is agreement of all discernible class characteristics and sufficient agreement of a combination of individual characteristics where the extent of agreement exceeds that which can occur in the comparison of toolmarks made by different tools and is consistent with the agreement demonstrated by toolmarks known to have been produced by the same tool.
WKQBYN	The fired cartridge cases in Items 2, 3, 4 and 5 (unknown) were microscopically examined and compared to the test fired cartridge cases in Item 1 (known). It was determined that the fired cartridge cases in Items 2, 3, 4 and 5 (unknown) were all fired in the same firearm that fired the cartridge cases in Item 1 (known).
WQD3EJ	AFTER A MICROSCOPIC COMPARISON OF GENERAL RIFLING FORM AND THE FINE DETAIL WITHIN, IT IS OUR OPINION THAT ALL BULLETS SUBMITTED (ITEMS 2,3,4 AND 5) WERE DISCHARGED FROM THE SAME WEAPON AS ITEMS 1. A COLT MODEL MK1V SERIES 80 MUSTANG SELF LOADING PISTOL.
WRKGKP	Based on cartridge cases individual characteristics, the hypothesis that items 2 to 5 were

TABLE 2

WebCode	Conclusions
	discharged from the suspect's weapon, is strongly supported.
WY3MJG	The cartridge cases described in Item 1, the cartridge case described in Item 2, the cartridge case described in Item 3, the cartridge case described in Item 4 and the cartridge case described in Item 5, are caliber .380 Auto and were fired by the same firearm.
WYNEEM	The seized Colt MK IV series 80 Mustang pistol discharged the four (4) items (#2 to #5).
X6N3NE	All the questioned expended cartridge cases(Item 2,3,4and5) were identified to be discharged from the same firearm as the known expended cartridge cases(Item 1).
X6N8XG	Items #1.2(2), #1.3(3), #1.4(4) and #1.5(5) are all 380 AUTO caliber fired cartridge cases with the headstamp markings of "WIN" (Winchester) and were identified as been having fired from the same known firearm that generated item #1.1(1).
X7JMBE	Considering the findings of the examination, identification on individual characteristics were found on tool marks produced by the firingpin and the breechface, between the test fire form the Colt MKIV Series 80 Handgun (item 1) and the four recovered questioned cartridges cases (items 2-5), which means that these four cartridges cases (items 2-5) were fired by the Colt MKIV Series 80 Handgun (item 1).
XD3T8K	3. On 2016-11-09 during the performance of my official duties I received a sealed evidence bag with number PA4001435430 from Case Administration of the Ballistics Section containing the following exhibits: 3.1 Three (3) 9mm Short calibre fired cartridge cases marked by me "464001/16 1TC1", "464001/16 1TC2" and "464001/16 1TC3" respectively. 3.2 Four (4) 9mm Short calibre fired cartridge cases marked by me "464001/16" each and "2" to "5" respectively. 4. The intention and scope of this forensic examination comprise of the following: 4.1 The examination and identification of fired cartridge cases. 4.2 Microscopic individualization of fired cartridge cases. 5. I examined the fired cartridge cases mentioned in paragraphs 3.1 and 3.2 and compared the individual and class characteristics markings on them using a comparison microscope and found: 5.1 It cannot be determined if the cartridge cases mentioned in paragraphs 3.1 and 3.2 were fired or were not fired in the same firearm.
XEENTD	The cartridge cases 2 and 3, in my opinion, were fired from the recovered handgun. For items 4 and 5, the report would consider two propositions: 1) the cartridge case was fired in the suspects gun 2)the cartridge case was fired in some other gun For items 4 and 5 the findings provide very strong support for the proposition that they were fired from the suspects gun rather than some other gun.
XG264K	3. On 2016-11-10 during the performance of my official duties I received an unsealed evidence bag with number PA4001435429 from Case Administration of the Ballistics Section, containing a sealed white box with five (5) labelled jewel boxes containing the following: 3.1 Three (3) 9mm Short calibre fired cartridge cases marked 978TC1. 3.2 Four (4) 9mm Short calibre fired cartridge cases marked "463978/16" each and also "2", "3", "4" and "5" respectively. 4. The intention and scope of this forensic examination comprise of the following: 4.1 The examination and identification of fired cartridge cases. 4.2 Microscopic individualization of fired cartridge cases. 5. I examined the fired cartridge cases mentioned in paragraphs 3.1 and 3.2 and compared the Individual and class characteristics markings on them using a comparison microscope and found: 5.1 The cartridge cases mentioned in paragraph 3.2 were fired in the same firearm that discharged the cartridge cases mentioned in paragraph 3.1.
XGK7R9	I examined the fired cartridge cases mentioned in par 1 and compare the individual and class characteristics markings, using a comparison microscope and found: 2.1) The cartridge cases Item 1, Item 2, Item 3, Item 4 and Item 5 were fired in the same firearm.

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WebCode	Conclusions
XHC2LG	The four fired cartridge cases, Lab Items 2, 3, 4, and 5, were all fired from the same firearm as the three fired cartridge cases from Lab Item 1, based on microscopic comparison and agreement of discernible class characteristics and sufficient matching individual detail.
XHXM6L	Submitted Item(s) 2 through 5 were microscopically examined and compared to each other and test fires from a Colt MK IV Series Mustang 380 Auto caliber pistol submitted in Item 1. They were positively identified as having been fired in this firearm.
XKKAN2	Examinations showed that Item 2, Item 3, Item 4, and Item 5 were discharged within the suspect firearm.
XQ888H	The firing pin marks of item 2, 3 and 4 are similar to item 1. And for item 5, the firing pin mark is different from that of item 1.
XV3U8X	Examination of the fired cartridge cases in Items 2, 3, 4, and 5 revealed them all to be Winchester brand, 380 Auto caliber. These four cartridge cases were microscopically examined in conjunction with the 'known' cartridge cases in Item 1. Based on these comparative examinations it was determined that Items 2, 3, 4, and 5 had been fired in the same firearm as the 'knowns' in Item 1.
XVXL TJ	The four expended cartridge cases (items 1, 2, 3, 4 and 5) were compared one to the others to determine common origin. The four cartridge cases (items 2, 3, 4 and 5) were fired by the suspect's firearm item 1.
XX8Q9T	Items 2, 3, 4 and 5 are identified as having been fired in the suspect firearm.
Y2JUWA	I examined the fired cartridge cases marked Item 1 to Item 5 respectively, and compared the individual and class characteristics markings on them using a comparison microscope and found: The cartridge cases marked Item 1 to Item 5 were fired in the same firearm.
Y4BPQH	Items 2, 3, 4, and 5 were identified as having been fired in the same firearm as the Item 1 known cartridge cases.
Y6KWJP	Items 2 to 5 were all fired with the seized Colt Mustang (Item 1).
Y6MPFC	Item 2, Item 3, Item 4 and Item 5 were all discharged from the same firearm that discharged Item 1.
Y7H8GD	The cartridges cases described in items 1, 2, 3, 4 and 5, are .380 AUTO caliber and were fired from the same firearm.
Y9HFLN	Results of Examinations: Item 1 consists of three .380 Auto caliber cartridge cases that bear the headstamp of Winchester. Item 2 through Item 5 are .380 Auto caliber cartridge cases that bear the headstamp of Winchester were identified as having been fired in the same firearm as the Item 1 cartridge cases.
YC7NEX	1) Examinations showed Items 2, 3, 4, and 5 were all discharged within the same firearm as Item 1.
YF679J	The four individually packaged cartridge cases (Items #2, #3, #4, #5) were microscopically compared to one another and to the test fired cartridge cases reportedly from the suspect's weapon (Item #1). Items #2, #3, #4, and #5 were all identified as having been fired from the suspect's weapon (Item #1).
YM8B7U	Items 2-5 were fired in the same firearm as Item 1.
YN3U9V	Item 2-5 were identified as having been fired in the same firearm that reportedly fired Item 1

TABLE 2

WebCode	Conclusions
	test fires based on agreement of the combination of individual characteristics and all discernible class characteristics.
YRHBFE	The .380 caliber from suspect gun expended 3 cartridge cases (Item 1) were Microscopically examined Item 3 and Item 4 reveal the individual characteristic are identified as have been from the same gun with the Item 1 (Suspect gun). Items 2 were not fired in the same firearm as Items 1. Item 5 could not be conclusive identify
YVHG6R	The exhibit fired cartridge cases listed as item 2, 3, 4 and 5 were identified within the limits of practical certainty as having been fired in the same firearm as item 1, the exhibit Colt MK iv series 80 Mustang 380 Auto calibre pistol.
YW9LPD	The correspondence or non-correspondence of the ballistic elements is determined by comparative micro collation analysis of the individual characteristics of the same. 1.-The cartridge cases identified with evidence numbers 2 and 5 were fired by the Colt Mk IV series 80 Mustang .380 Auto which was in possession of the suspect. 2.-The cartridge cases identified with the evidence numbers 3 and 4 were shot by a caliber .380 auto gun
YWDZ3D	Following a detailed comparison of firing marks, I am satisfied that all four cartridge cases (Items 2, 3, 4, 5) were discharged in the suspect Colt pistol (Item 1).
YWN8YE	The reference fired cartridge cases from the Colt pistol, specimen #1, were microscopically compared to the .380 caliber fired cartridge cases, specimens #2 through #5. It was determined that specimens #2 through #5 were fired in the Colt pistol, specimen #1.
YXLDHU	Microscopic comparison was conducted with the following results: Item #1 and Items #2 thru #5 were fired in the same firearm.
Z4A83Y	The 380 Auto cartridge cases (Items 1, 2, 3, 4 and 5) were all fired in the same firearm. Item 1: Three 380 Auto Winchester cartridge cases. Item 2: One 380 Auto Winchester cartridge case. Item 3: One 380 Auto Winchester cartridge case. Item 4: One 380 Auto Winchester cartridge case. Item 5: One 380 Auto Winchester cartridge case.
ZNBBWT	Conclusion: Microscopic comparison was conducted with the following result's: Item #2 thru #5 were fired in Item #1.
ZND6DE	The reference fired cartridge cases from the Colt pistol, specimen #1, were compared to the .380 auto caliber fired cartridge cases, specimens #2 through #5. Microscopic examination and comparison revealed that specimens #2 through #5 were fired in the Colt pistol, specimen #1.
ZNWWCQ	All seven of the Items 01-01, 01-02, 01-03, 01-04, and 01-05 cartridge cases were identified as having been fired in the same firearm, which is reportedly a Colt pistol, Model MK IV Series 80 Mustang, serial number unknown.
ZQKEGH	Casings M through P (Items 2 through 5) were fired in the .380 Auto Colt pistol, model 80 Mustang, serial number unknown (Item 1).
ZVQ94D	Based on agreement of discernible class characteristics and sufficient corresponding individual detail, the fired 380 Auto caliber cartridge cases from Items 1-5 were identified as having been fired in the same firearm.
ZWKYAR	Items 2, 3, 4, 5 were discharged from suspect weapon Item 1.

Additional Comments

TABLE 3

WebCode	Additional Comments
29VWPF	Cartridge cases marked 467017/16 A2-A5 were fired in the firearm colt MKIV series 80 Mustang .380 Auto handgun.
2EJEAJ	SUFFICIENT AGREEMENT Sufficient agreement is related to the significant duplication of random toolmarks as evidence by a pattern or combination of patterns of surface contours. "Sufficient agreement" exists between two toolmarks means that the agreement is of a quantity and quality that the likelihood another tool could have made the mark is so remote as to be considered a practical impossibility.
3V2UQK	Methods: Two cartridge cases, either two evidence items or one evidence item and one cartridge case test fired in the Laboratory, undergo two stages of comparison. First, the cartridge cases are examined to determine and compare their class characteristics. The class characteristics of fired cartridge cases include caliber, shape of firing pin impression, shape and orientation of breech face marks, and relative locations of extractor and ejector marks. If the class characteristics of the two cartridge cases are not clearly different, the examination moves to a second stage using comparative microscopy. A microscopic comparison examination consists of a search of the impressed and striated toolmarks present on two cartridge cases to determine if patterns of similarity exist. At the completion of these examinations, one of the following three opinions is issued: 1) Exclusion (Elimination) If two cartridge cases have clearly different class characteristics, an Exclusion opinion is rendered. Exclusion opinions based on a measured class difference or the physical comparison of a discernible difference in class characteristics cannot be reported unless a second qualified firearms/toolmarks Examiner has examined the items in question and reached the same conclusion. 2) Identification If the following conditions are met during the comparison of microscopic marks, an opinion of Identification is rendered: a) The degree of similarity is greater than the Examiner has ever observed in previous evaluations of cartridge cases known to have been fired in different firearms. b) The degree of similarity is equivalent to that normally observed in cartridge cases known to have been fired in the same firearm. When these conditions are met the likelihood another tool (firearm) could have produced the same mark is so remote as to be considered a practical impossibility. An Identification opinion cannot be reported unless a second qualified firearms/toolmarks examiner has examined the items in question and reached the same conclusion. 3) Inconclusive (No Conclusion) If the conditions required for an Exclusion or Identification are not observed, one of two types of inconclusive results can be reported. An opinion of No Conclusion is rendered if the impressed and/or striated toolmarks present in either or both of the specimens are of poor quality, have limited microscopic marks of value, lack any observed microscopic similarity, or microscopic similarity that is present but too limited to meet the criteria for Identification. An opinion of Nothing Found to Indicate is rendered if the microscopic marks of value on both specimens are of good quality but lack correspondence in the impressed and/or striated marks. Limitations: Firearms/Toolmark Identification is an empirical science that relies on objective measurements and a subjective comparison of microscopic marks of value. Due to possible changes in firearm operating surfaces from wear, corrosion, and ordinary fouling and differences in ammunition design and construction, cartridge cases fired in the same firearm are sometimes not identifiable as such. Additionally, some firearm manufacturing methods routinely produce working surfaces that leave limited microscopic marks of value on fired cartridge cases.
3VLBDM	The cross-identifications were made using the irregular breechface defects impressed in the primers and heads.

TABLE 3

WebCode	Additional Comments
4U94EE	Four questioned fired cartridge cases marked Item 2 - Item 5 were fired in the known firearm a Colt MK IV 80 Mustang .380 Auto handgun.
8RPGC2	The quality of the samples was good. The difficulty was appropriate.
9ZY89D	The class marks on cartridge cases are the same but I found insufficient individual markings to satisfy a positive finding. I found few corresponding/orientating marks on the breechface of the cartridge cases when examining the exhibits with the tests and with each other and no sufficient follow marks.
AKF439	ITEMS #1, 2, 3, 4, AND 5 EXHIBIT SUFFICIENT AND CONSISTENT INDIVIDUAL MARKING OF BREECHFACE (BF), THEREFORE THEY WERE FIRED FROM THE SAME FIREARM.
B4BPMZ	3. Item 3 pressure differences, see marks in the firing pin mark, possibly sub-class. 3.1 Positive inconclusive.
BJKKZ8	The class characteristics often give a promising clue to the make and model of the firearm which the evidence cartridge case was fired in.
DHLCM8	The item 1 cartridge cases were submitted as agency test fires. The cartridge cases were test fired in a 380 auto caliber model MK IV series 80 mustang pistol (serial number not mentioned).
FPD7ZW	Cannot matching or eliminate the Individual characteristics on the cartridge cases because of lighting problem of our universal Forensic Comparison microscope.
G8TZ26	Test-fires not performed in this laboratory are not considered "knowns". Therefore, my conclusion reflects Item 1 being an evidence item, and does not specifically state that evidence items 2-5 were fired by the specific firearm used to generate Item 1 and described in the submission documents.
HXXGZ2	Methods: Association Association examinations compare the physical and class characteristics of evidence items. An association conclusion is reached if the observable or measurable physical dimensions and design features of two items are in agreement, or are "physically consistent." If these dimensions and features are clearly different, an elimination conclusion is reached. If there is a lack of observable design features or measurable dimensions, the result is inconclusive. Cartridge Cases Two cartridge cases, either two evidence items or one evidence item and one cartridge case test fired in the Laboratory, undergo two stages of comparison. First, the cartridge cases are examined to determine and compare their class characteristics. The class characteristics of fired cartridge cases include caliber, shape of firing pin impression, shape and orientation of breech face marks, and relative locations of extractor and ejector marks. If the class characteristics of the two cartridge cases are not clearly different, the examination moves to a second stage using comparative microscopy. A microscopic comparison examination consists of a search of the impressed and striated toolmarks present on two cartridge cases to determine if patterns of similarity exist. At the completion of these examinations, one of the following three opinions is issued: 1) Exclusion (Elimination) If two cartridge cases have clearly different class characteristics, an Exclusion opinion is rendered. Exclusion opinions based on a measured class difference or the physical comparison of a discernible difference in class characteristics cannot be reported unless a second qualified firearms/toolmarks Examiner has examined the items in question and reached the same conclusion. 2) Identification If the following conditions are met during the comparison of microscopic marks, an opinion of Identification is rendered: a) The degree of similarity is greater than the Examiner has ever observed in previous evaluations of cartridge cases known to have been fired in different firearms. b) The degree of similarity is equivalent to that normally observed in cartridge cases known to have been fired in the same firearm.

TABLE 3

WebCode	Additional Comments
	<p>When these conditions are met the likelihood another tool (firearm) could have produced the same mark is so remote as to be considered a practical impossibility. An Identification opinion cannot be reported unless a second qualified firearms/toolmarks examiner has examined the items in question and reached the same conclusion. 3) Inconclusive (No Conclusion) If the conditions required for an Exclusion or Identification are not observed, one of two types of inconclusive results can be reported. An opinion of No Conclusion is rendered if the impressed and/or striated toolmarks present in either or both of the specimens are of poor quality, have limited microscopic marks of value, lack any observed microscopic similarity, or microscopic similarity that is present but too limited to meet the criteria for Identification. An opinion of Nothing Found to Indicate is rendered if the microscopic marks of value on both specimens are of good quality but lack correspondence in the impressed and/or striated marks. Limitations: Association Association examinations are used to determine if two items are from a restricted group source and cannot be used to determine whether two items are from a unique source. Cartridge Cases Firearms/Toolmark Identification is an empirical science that relies on objective measurements and a subjective comparison of microscopic marks of value. Due to possible changes in firearm operating surfaces from wear, corrosion, and ordinary fouling and differences in ammunition design and construction, cartridge cases fired in the same firearm are sometimes not identifiable as such. Additionally, some firearm manufacturing methods routinely produce working surfaces that leave limited microscopic marks of value on fired cartridge cases.</p>
J8826J	<p>Items 2 thru 5 would be referred to as Specimens QC-2 thru QC-5 and Item 1 would be referred to as Test Shots TC-1 (A,B and C) in our reporting procedure.</p>
K7QBH6	<p>Breech face and firing pin</p>
MEAN3Z	<p>Methods: Two cartridge cases, either two evidence items or one evidence item and one cartridge case test fired in the Laboratory, undergo two stages of comparison. First, the cartridge cases are examined to determine and compare their class characteristics. The class characteristics of fired cartridge cases include caliber, shape of firing pin impression, shape and orientation of breech face marks, and relative locations of extractor and ejector marks. If the class characteristics of the two cartridge cases are not clearly different, the examination moves to a second stage using comparative microscopy. A microscopic comparison examination consists of a search of the impressed and striated toolmarks present on two cartridge cases to determine if patterns of similarity exist. At the completion of these examinations, one of the following three opinions is issued: 1) Exclusion (Elimination) If two cartridge cases have clearly different class characteristics, an Exclusion opinion is rendered. Exclusion opinions based on a measured class difference or the physical comparison of a discernible difference in class characteristics cannot be reported unless a second qualified firearms/toolmarks Examiner has examined the items in question and reached the same conclusion. 2) Identification If the following conditions are met during the comparison of microscopic marks, an opinion of Identification is rendered: a) The degree of similarity is greater than the Examiner has ever observed in previous evaluations of cartridge cases known to have been fired in different firearms. b) The degree of similarity is equivalent to that normally observed in cartridge cases known to have been fired in the same firearm. When these conditions are met the likelihood another tool (firearm) could have produced the same mark is so remote as to be considered a practical impossibility. An Identification opinion cannot be reported unless a second qualified firearms/toolmarks examiner has examined the items in question and reached the same conclusion. 3) Inconclusive (No Conclusion) If the conditions required for an Exclusion or Identification are not observed, one of two types of inconclusive results can be reported. An opinion of No Conclusion is rendered if the impressed and/or striated toolmarks present in either or both of the specimens are of poor</p>

TABLE 3

WebCode	Additional Comments
	quality, have limited microscopic marks of value, lack any observed microscopic similarity, or microscopic similarity that is present but too limited to meet the criteria for Identification. An opinion of Nothing Found to Indicate is rendered if the microscopic marks of value on both specimens are of good quality but lack correspondence in the impressed and/or striated marks. Limitations: Firearms/Toolmark Identification is an empirical science that relies on objective measurements and a subjective comparison of microscopic marks of value. Due to possible changes in firearm operating surfaces from wear, corrosion, and ordinary fouling and differences in ammunition design and construction, cartridge cases fired in the same firearm are sometimes not identifiable as such. Additionally, some firearm manufacturing methods routinely produce working surfaces that leave limited microscopic marks of value on fired cartridge cases.
NLPH23	Item 1-01-AA will be forwarded to the [Laboratory] for NIBIN analysis. A report will be issued by that laboratory upon completion.
NM2E78	It was concluded that Items 1 - 4 were all fired by the same firearm. Item 5 was inconclusive with Items 1 - 4. Some limited similarities were noted on Item 5 and Items 1 - 4; however, the degree of agreement and consistency of those similarities were not as pronounced and readily identifiable as those exhibited on the other Items. For this reason, it could not be determined whether Item 5 was fired by the firearm that fired Items 1 - 4 or by another firearm that produced similar markings.
P9VUVU	Strength of Associations Made in the Identification of Firearm-Produced Toolmarks: The identification of firearm-produced toolmarks is made to the practical, not absolute, exclusion of all other firearms. This is because it is not possible to examine all firearms in the world, a prerequisite for absolute certainty. The conclusion that sufficient agreement for identification exists between two firearm-produced toolmarks means that the likelihood another firearm could have made the questioned mark is so remote as to be considered a practical impossibility.
RJREMX	NIBIN: The results of NIBIN entries and searches will be the subject of a separate report.
RKMYJK	Items 2,3,4 and 5 were identified as having been fired from the same firearm as each other. Items 2,3,4 and 5 have class characteristics consistent with Item 1, but were not conclusively identified to or eliminated from having been fired from the Colt MK IV Series 80 Mustang .380 Auto Handgun due to insufficient of individual characteristics.
RX9A3U	The nickel plating on some of the primers is flaked off or is partially separated from the brass underneath. As a result, some of the marks recorded on the primer (firing pin and breechface) were altered dramatically.
T6Q3RY	NIBIN: Item 1A, the cartridge case discharged from the suspect's firearm, will be entered into NIBIN. The results of NIBIN will be the subject of a separate report.
TREX6Q	Strength of Associations Made in the Identification of Firearm-Produced Toolmarks: The identifications of the cartridge cases in this case to the same known firearm are made to the practical, not absolute, exclusion of all other firearms. This is because it is not possible to examine all firearms in the world, a prerequisite for absolute certainty. The conclusion that sufficient agreement for identification exists between two firearm-produced toolmarks means that the likelihood another firearm could have made the questioned mark is so remote as to be considered a practical impossibility.
V82XBF	THE WORDING OF THE CONCLUSIONS IN OUR REPORT IN SPANISH WOULD BE THE FOLLOWING: SE EXAMINARON LOS ELEMENTOS TESTIGOS DEL ARMA DE FUEGO COLT MKIV SERIES 80 MUSTANG .380 AUTO, IDENTIFICADOS COMO ITEM 1, LOS CUALES

TABLE 3

WebCode	Additional Comments
	FUERON COTEJADOS CON LOS CASQUILLOS PROBLEMA, IDENTIFICADOS COMO ITEMS 2, 3, 4 Y 5, DE LO CUAL SE OBTUVO QUE PRESENTAN CORRESPONDENCIA EN SUS MARCAS IDENTIFICATIVAS CON LOS ELEMENTOS TESTIGOS.
V9Y4UV	1) Noted nickel finish on primer surface was flaking off in Items 2-5. 2) Used Microsil to cast fired cartridges for microscope exam/comparison.
VNQZVQ	The evidence and the test fires will be returned to property.
WYNEEM	BASICS TEST.
XD3T8K	The exhibits examined display some agreement of individual characteristics and all recognisable class characteristics but not enough for individualisation. There is sufficient agreement as far as the breechface is concerned, however there was not sufficient agreement on any of the other components.
XEENTD	The condition/quality of the ammunition used to generate the items/samples affected the conclusions given to items 4 and 5.
Y9HFLN	<p>Methods: Cartridge Cases Two cartridge cases, either two evidence items or one evidence item and one cartridge case test fired in the Laboratory, undergo two stages of comparison. First, the cartridge cases are examined to determine and compare their class characteristics. The class characteristics of fired cartridge cases include caliber, shape of firing pin impression, shape and orientation of breech face marks, and relative locations of extractor and ejector marks. If the class characteristics of the two cartridge cases are not clearly different, the examination moves to a second stage using comparative microscopy. A microscopic comparison examination consists of a search of the impressed and striated toolmarks present on two cartridge cases to determine if patterns of similarity exist. At the completion of these examinations, one of the following three opinions is issued: 1) Exclusion (Elimination) If two cartridge cases have clearly different class characteristics, an Exclusion opinion is rendered. Exclusion opinions based on a measured class difference or the physical comparison of a discernible difference in class characteristics cannot be reported unless a second qualified firearms/toolmarks Examiner has examined the items in question and reached the same conclusion. 2) Identification If the following conditions are met during the comparison of microscopic marks, an opinion of Identification is rendered: a) The degree of similarity is greater than the Examiner has ever observed in previous evaluations of cartridge cases known to have been fired in different firearms. b) The degree of similarity is equivalent to that normally observed in cartridge cases known to have been fired in the same firearm. When these conditions are met the likelihood another tool (firearm) could have produced the same mark is so remote as to be considered a practical impossibility. An Identification opinion cannot be reported unless a second qualified firearms/toolmarks examiner has examined the items in question and reached the same conclusion. 3) Inconclusive (No Conclusion) If the conditions required for an Exclusion or Identification are not observed, one of two types of inconclusive results can be reported. An opinion of No conclusion is rendered if the impressed and/or striated toolmarks present in either or both of the specimens are of poor quality, have limited microscopic marks of value, lack any observed microscopic similarity, or microscopic similarity that is present but too limited to meet the criteria for Identification. An opinion of nothing found to indicate is rendered if the microscopic marks of value on both specimens are of good quality but lack correspondence in the impressed and/or striated marks. Limitations: Cartridge Cases Firearms/Toolmark Identification is an empirical science that relies on objective measurements and a subjective comparison of microscopic marks of value. Due to possible changes in firearm operating surfaces from wear, corrosion, and ordinary fouling and differences in ammunition design and construction, cartridge cases fired in the same firearm are sometimes not identifiable as such. Additionally, some firearm manufacturing</p>

TABLE 3

WebCode	Additional Comments
YRHBFE	methods routinely produce working surfaces that leave limited microscopic marks of value on fired cartridge cases. Need Item 1 more than three expended cartridge cases for identified Item 5.

Appendix

Collaborative Testing Services - Forensic Testing Program **Test No. 16-527: Firearms Examination**

DATA MUST BE RECEIVED BY December 19, 2016 TO BE INCLUDED IN THE REPORT

Participant Code:

WebCode:

Accreditation Release Statement

CTS submits external proficiency test data directly to ASCLD/LAB, ANAB, and A2LA. Please select one of the following statements to ensure your data is handled appropriately.

- This participant's data is intended for submission to ASCLD/LAB, ANAB, and/or A2LA. (Accreditation Release section on the last page must be completed and submitted.)
- This participant's data is **NOT** intended for submission to ASCLD/LAB, ANAB, and/or A2LA.

Scenario:

Police are investigating a shooting at a residence. Investigators recovered four expended cartridge cases at the scene - two from the victim's bedroom, one from the floor near the kitchen and one from the floor near the living room. A suspect was apprehended later that day and police seized a Colt MK IV Series 80 Mustang .380 Auto handgun from his possession. Three rounds of Winchester Train & Defend .380 Auto 95 grain FMJ ammunition (which were consistent with the cartridge cases found at the scene) were fired with the suspect firearm and the cartridge cases collected. Investigators are asking you to compare the recovered cartridge cases from the scene with those test fired from the suspect's weapon and report your findings.

Please note the following:

- Each Item is in a labeled jewel box, it is suggested that when the items are removed from their labeled boxes, they be marked according to your laboratory procedure. However, in case the items are separated from their boxes before labeling has occurred, each item has been inscribed with its item number.

Items Submitted (Sample Pack F2):

- Item 1: Three expended cartridge cases discharged from the suspect's weapon (known).
- Item 2: First expended cartridge case recovered from the victim's bedroom (questioned).
- Item 3: Second expended cartridge case recovered from the victim's bedroom (questioned).
- Item 4: One expended cartridge case recovered from the floor near the kitchen (questioned).
- Item 5: One expended cartridge case recovered from the floor near the living room (questioned).

1.) Were any of the questioned expended cartridge cases (Items 2-5) discharged from the same firearm as the known expended cartridge cases (Item 1)?

Item 2	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	Inconclusive*	<input type="checkbox"/>
Item 3	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	Inconclusive*	<input type="checkbox"/>
Item 4	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	Inconclusive*	<input type="checkbox"/>
Item 5	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	Inconclusive*	<input type="checkbox"/>

*Should an item(s) be marked "Inconclusive", please document the reason in the Additional Comments section of this data sheet.

Please return all pages of this data sheet.

Page 1 of 3

Participant Code:

WebCode:

2.) What would be the wording of the Conclusions in your report?

3.) Additional Comments

<p>Return Instructions: Data must be received via online data entry, fax (please include a cover sheet), or mail by December 19, 2016 to be included in the report. Emailed data sheets are not accepted.</p>	<p>Participant Code:</p>
<p>QUESTIONS? TEL: +1-571-434-1925 (8 am - 4:30 pm EST) EMAIL: forensics@cts-interlab.com www.ctsforensics.com</p>	<p>ONLINE DATA ENTRY: www.cts-portal.com FAX: +1-571-434-1937 MAIL: Collaborative Testing Services, Inc. P.O. Box 650820 Sterling, VA 20165-0820 USA</p>

Please return all pages of this data sheet.

Collaborative Testing Services ~ Forensic Testing Program

RELEASE OF DATA TO ACCREDITATION BODIES

The following Accreditation Releases will apply only to:

Participant Code:

WebCode:

for Test No. **16-527: Firearms Examination**

This release page must be completed and received by **December 19, 2016** to have this participant's submitted data included in the reports forwarded to the respective Accreditation Bodies.

Have the laboratory's designated individual complete the following steps **only if your laboratory is accredited in this testing/calibration discipline** by one or more of the following Accreditation Bodies.

Step 1: Provide the applicable Accreditation Certificate Number(s) for your laboratory

ASCLD/LAB Certificate No. _____

ANAB Certificate No. _____

A2LA Certificate No. _____

Step 2: Complete the Laboratory Identifying Information in its entirety

Signature and Title _____

Laboratory Name _____

Location (City/State) _____

Accreditation Release

Return Instructions

Please submit the completed Accreditation Release at the same time as your full data sheet. See Data Sheet Return Instructions on the previous page.

*Questions? Contact us 8 am-4:30 pm EST
Telephone: +1-571-434-1925
email: forensics@cts-interlab.com*

Please return all pages of this data sheet.

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