



## **Bloodstain Pattern Analysis Test No. 17-5601/2/5 Summary Report**

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This test was sent to 270 participants. Each sample pack consisted of digitally produced photographs (17-5601), a DVD containing digital images (17-5602), or directly downloadable digital images (17-5605) of bloodstains for determination of Angle of Impact and Pattern Description. Data were returned from 217 participants (80% response rate): 115 for 17-5601, 78 for 17-5602, and 24 for 17-5605 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 the following images: Angle of Impact Determination Stains A - E (Item 1), Pattern Description: Mechanism of Deposition (Items 2, 3, and 4), and Pattern Description: Recognition and Description (Item 5) provided in photographic (5601), DVD (5602), or digital download (5605) form. Participants were requested to determine the angle of impact of Stains A - E (Item 1), identify the pattern for Items 2 - 4, and write a brief description of the pattern(s) for Item 5.

### SAMPLE SET ASSEMBLY:

Once sample preparation was done, verification was completed, and photos produced, each photo set was placed into a pre-labeled sample pack envelope, sealed with evidence tape, and initialed with "CTS". Each DVD was checked to ensure all images were accessible. Digital download media were provided as a zipped file on the CTS portal.

### VERIFICATION:

Laboratories that conducted the predistribution examination of the Angle of Impact stains reported consistent results for each of the Angle of Impact Stains A - E, and their findings were comparable to the Preparation Angles. The responses of predistribution laboratories were consistent with the expected pattern identifications for Items 2 - 4 and the pattern description for Item 5.

SAMPLE PREPARATION: All stains were produced using human whole blood.

### ANGLE OF IMPACT DETERMINATION:

For each impact, blood was released from a pipette at a height of approximately thirty-six inches above the impact surface. White posterboard targets were placed on an inclined plane at the following predetermined angles from the vertical:

<u>Stain</u>	<u>Preparation Angle</u>
A	34.1°
B	11.1°
C	20.2°
D	21.9°
E	16.9°

Please note that the Preparation Angle is the value used for the test preparation phase and may not necessarily represent the final angle of the drops. It is advised to wait for the Grand Mean statistics available in the Summary and Individual Reports before evaluating performance.

## *Manufacturer's Information, continued*

### PATTERN DESCRIPTION

Pattern 2: A dry sponge was dipped into blood and moved across the target.

Pattern 3: A single drop of blood was released from a dropper bottle held approximately 24 inches above the target.

Pattern 4: A piece of a white cotton sheet was placed on the target, and then blood was gently deposited on the sheet.

Pattern 5: A knife's blade was dipped into blood and swung across the target multiple times, recoating the blade before each swing. Three drops of blood were deposited in random positions from a dropper bottle held approximately 24 inches above the target. The entire knife was dipped into blood, laid onto the target, and then removed.

# Summary Comments

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## Introduction

This test consisted of two sections: Angle of Impact Determination and Pattern Description. Participants had the option of receiving the stains and patterns for examination in the form of photographs, digital images on a DVD, or directly downloadable digital images.

## Angle Of Impact

For angle of impact determination, participants were provided with images of five impact stains prepared at known angles from the vertical (see table below). Results marked with an "X" in Table 1 are greater than or equal to  $\pm 3$  standard deviations (STD) from the grand mean (GM). These results have been excluded from the statistical calculations presented at the end of each Stain table. Each exclusion was determined independently of other values (i.e. Length exclusion based only on Length GM; CalcAng exclusion based only on CalcAng GM). Exclusions were caused by significantly discrepant length/width measurements, potentially due to providing length/width measurements of digitally magnified drops or using different units of measurement. Examples of these are apparent, as their Width and Length values are excluded, but their Angle and Calculated Angle are included due to the ratio of their values corresponding with the other participants. The Grand Mean and Standard Deviation are shown below, based on the Calculated Angle.

<u>Stain</u>	<u>Preparation Angle</u>	<u>Grand Mean</u>	<u>Standard Deviation</u>
A	34.1°	32.61°	1.72
B	11.1°	12.01°	0.92
C	20.2°	20.91°	1.12
D	21.9°	20.85°	1.08
E	16.9°	16.25°	0.89

## Pattern Description

The pattern description was divided into two separate parts. Part one consisted of three patterns (one vertical target on ceramic tile, one horizontal target on vinyl tile, one horizontal target on white cotton fabric), and participants were asked to select the single pattern type that best described the mechanism of deposition. The second part of the pattern description section consisted of one horizontal target on white cardboard, and participants were asked to provide a detailed description of the possible bloodstain patterns or events that created the final result. Please refer to the Manufacturer's Information for detailed explanations of how the patterns were created.

For part one, Item 2, 94% of participants reported "Swipe Pattern". Alternate responses provided were "Wipe Pattern" and "Transfer Stain". Swipes and wipes can be difficult to distinguish, and both can be classified as a type of transfer stain, so these responses are not unexpected for this stain. For Item 3, 95% of participants reported "Drip Stain", while the common alternative response was "Drip Pattern". A drip pattern results from multiple drip stains in one location. For Item 4, 97% of participants reported a "Saturation Stain"; four participants identified the pattern as both a "Saturation Stain" and a "Transfer Stain", which did not fulfill the requirements of the question.

For part two, Item 5, the majority of participants reported the following distinct pattern types: 1) Transfer Pattern(s), either identifying two separate transfers or acknowledging a possible void between these stains. 2) Drip Stains, with three unrelated incidents of this pattern, and at least one with associated satellite staining or accompanying drops. 3) Cast-off Patterns, with two incidents of cast-off staining crossing the target in differing orientations. A smaller portion of participants called these patterns Drip Trails, as each pattern was linear and the individual stains were relatively circular.

Some limitations were acknowledged by participants with the Item 4 pattern, as bloodstains on fabric require more thorough analysis than a single photograph of a bloodied cloth item as provided. It is recognized by CTS that future patterns containing fabric targets would require photographs from multiple angles and more detailed substrate notes. Additionally, CTS plans to provide basic case scenarios for each item within the Pattern Description section to provide context to the patterns contained therein.

# Section I: Angle of Impact Determination

## TABLE 1

### **Table Explanation**

The following table presents participants' reported Width and Length measurements for each bloodstain (A-E), along with Angle of Impact calculations. Several comparison statistics computed by CTS are presented as well. A brief explanation of each appears below:

**CalcAng - Calculated Angle of Impact:** This value was calculated by CTS using the width and length of the bloodstain reported by the participant and the formula:  $\sin \theta = \text{width}/\text{length}$ , where  $\theta$  is the angle of impact. This calculation can only be performed when the reported width is less than or equal to the reported length.

**Diff - Difference:** The numerical difference between the participant's measurement and the Grand Mean.

**GM - Grand Mean:** The average of the measurements submitted by all the participants, not including any data specifically excluded (marked with X).

**SD - Between Participant Standard Deviation :** For each measurement, the standard deviation of the participant data about the Grand Mean, not including those participants excluded from the Grand Mean. The Between Participant Standard Deviation is an indication of the precision of measurement between participants.

**CPV - Comparative Performance Value:** For each value not excluded from statistical calculations, the CPV is the *Difference* divided by the *Between Participant Standard Deviation*. The *Difference* and *Between Participant Standard Deviation* values given below are rounded values, and as such, there may be a slight variation between the CPV provided in the chart and a CPV calculated by hand with the rounded values. The CPV is an indication of how well a participant's measurement agrees with the measurements submitted by other participants. The CPV is a (unitless) ratio indicating the number of standard deviations a participant's results are from the Grand Mean. The closer a participant's CPV is to zero, the more consistent their results are with the other participants' data. The CPV is a specific type of Z-score.

When a participant reports data that gives a CPV above 3.00 or below -3.00 the result is "flagged" ("X"). The use of this criterion is well accepted as a performance indicator and ensures in excess of 99% confidence that flagged results are different from the other participants'.

TABLE 1  
Stain A

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
28Z7RF- 5601	4.00	0.94	9.71 X	7.00	1.30	5.35 X	34.00	1.37	0.81	34.85
2E7TNP- 5601	3.10	0.04	0.38	5.60	-0.10	-0.43	33.60	0.97	0.57	33.61
2NQ3BX- 5601	3.00	-0.06	-0.65	5.70	0.00	-0.02	31.76	-0.87	-0.51	31.76
2QDNXU- 5601	3.00	-0.06	-0.65	5.80	0.10	0.39	31.00	-1.63	-0.95	31.15
2Y64LX- 5602	2.80	-0.26	-2.73	4.80	-0.90	-3.74 X	35.00	2.37	1.39	35.69
2Z438R- 5601	2.80	-0.26	-2.73	5.60	-0.10	-0.43	30.00	-2.63	-1.54	30.00
32EBPQ- 5601	3.33	0.27	2.77	5.80	0.10	0.39	35.04	2.41	1.41	35.04
33RZUN- 5605	3.00	-0.06	-0.65	6.00	0.30	1.22	30.00	-2.63	-1.54	30.00
34MG98- 5601	3.10	0.04	0.38	5.80	0.10	0.39	32.00	-0.63	-0.37	32.31
36UZQF- 5601	3.00	-0.06	-0.65	5.90	0.20	0.81	30.56	-2.07	-1.21	30.56
36VTRU- 5601	2.99	-0.07	-0.76	5.33	-0.37	-1.55	34.10	1.47	0.86	34.12
3BFVRJ- 5601	3.10	0.04	0.38	5.83	0.13	0.52	32.00	-0.63	-0.37	32.12
3CCC72- 5602	3.10	0.04	0.38	6.00	0.30	1.22	31.11	-1.52	-0.89	31.11
3G9VC7- 5602	3.20	0.14	1.42	5.90	0.20	0.81	33.00	0.37	0.22	32.85
3P29AK- 5602	3.10	0.04	0.38	5.70	0.00	-0.02	33.50	0.87	0.51	32.95
3PJFBV- 5601	3.00	-0.06	-0.65	5.60	-0.10	-0.43	32.40	-0.23	-0.13	32.39
3PYLQL- 5601	3.00	-0.06	-0.65	5.80	0.10	0.39	31.10	-1.53	-0.89	31.15
4BCV4N- 5605	3.10	0.04	0.38	5.60	-0.10	-0.43	33.60	0.97	0.57	33.61
4CTXY4- 5601	3.00	-0.06	-0.65	6.00	0.30	1.22	30.00	-2.63	-1.54	30.00
4F9KKV- 5602	3.10	0.04	0.38	5.72	0.02	0.06	32.80	0.17	0.10	32.82
4LUA8Q- 5605	3.10	0.04	0.38	5.70	0.00	-0.02	32.90	0.27	0.16	32.95
4TUUAL- 5601	8.00	4.94	51.18 X	16.00	10.30	42.51 X	32.00	-0.63	-0.37	30.00

TABLE 1  
Stain A, continued

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
4ZH9L9-5602	3.00	-0.06	-0.65	5.10	-0.60	-2.50	36.00	3.37	1.98	36.03
694T3Q-5601	3.00	-0.06	-0.65	5.60	-0.10	-0.43	32.00	-0.63	-0.37	32.39
6G3D77-5601	3.10	0.04	0.38	5.50	-0.20	-0.85	34.30	1.67	0.98	34.31
6KF7BD-5601	4.00	0.94	9.71 X	7.00	1.30	5.35 X	35.00	2.37	1.39	34.85
6R2962-5602	3.30	0.24	2.46	5.90	0.20	0.81	34.00	1.37	0.81	34.01
6U4YKP-5601	13.50	10.44	108.19 X	24.00	18.30	75.54 X	34.20	1.57	0.92	34.23
72JCP7-5601	3.20	0.14	1.42	5.60	-0.10	-0.43	34.80	2.17	1.27	34.85
77WXVR-5602	3.12	0.06	0.59	5.56	-0.14	-0.60	34.00	1.37	0.81	34.14
794D3X-5602	3.00	-0.06	-0.65	5.50	-0.20	-0.85	33.00	0.37	0.22	33.06
7BP47N-5605	3.13	0.07	0.69	5.43	-0.27	-1.13	35.20	2.57	1.51	35.20
7CY9LX-5602	2.99	-0.07	-0.76	5.84	0.14	0.56	30.70	-1.93	-1.13	30.80
7ERZX4-5602	3.00	-0.06	-0.65	5.42	-0.28	-1.18	33.60	0.97	0.57	33.61
7JMR8L-5601	2.80	-0.26	-2.73	5.60	-0.10	-0.43	30.00	-2.63	-1.54	30.00
7JQ6ZN-5601	3.00	-0.06	-0.65	5.00	-0.70	-2.91	36.90	4.27	2.50	36.87
7L8JDW-5602	3.00	-0.06	-0.65	6.00	0.30	1.22	30.00	-2.63	-1.54	30.00
7W7JLU-5605	3.00	-0.06	-0.65	6.00	0.30	1.22	30.00	-2.63	-1.54	30.00
7WN88V-5601	3.10	0.04	0.38	5.50	-0.20	-0.85	34.30	1.67	0.98	34.31
84M843-5602	3.00	-0.06	-0.65	5.25	-0.45	-1.88	34.80	2.17	1.27	34.85
8CZ7RM-5605	3.00	-0.06	-0.65	5.90	0.20	0.81	31.00	-1.63	-0.95	30.56
8K79TD-5602	3.10	0.04	0.38	5.60	-0.10	-0.43	33.61	0.98	0.58	33.61
8L72UR-5601	3.00	-0.06	-0.65	5.70	0.00	-0.02	31.75	-0.88	-0.51	31.76
8T6RWU-5602	3.13	0.07	0.69	6.06	0.36	1.47	31.09	-1.54	-0.90	31.10

TABLE 1  
Stain A, continued

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
969HAL-5601	3.35	0.29	2.97	6.22	0.52	2.13	32.00	-0.63	-0.37	32.59
98ZCDH-5602	3.10	0.04	0.38	6.00	0.30	1.22	31.10	-1.53	-0.89	31.11
99BJAJ-5602	3.30	0.24	2.46	5.70	0.00	-0.02	35.37	2.74	1.61	35.38
9EG3GN-5601	2.95	-0.11	-1.17	5.33	-0.37	-1.55	33.60	0.97	0.57	33.61
9N9JAY-5601	3.07	0.01	0.07	5.89	0.19	0.76	32.00	-0.63	-0.37	31.41
9ZG8JW-5602	3.20	0.14	1.42	5.90	0.20	0.81	33.00	0.37	0.22	32.85
9ZHYEJ-5602	3.10	0.04	0.38	5.60	-0.10	-0.43	33.60	0.97	0.57	33.61
A4DCDT-5601	31.00	27.94	289.61 X	57.00	51.30	211.81 X	33.00	0.37	0.22	32.95
A7692M-5601	3.17	0.11	1.11	5.67	-0.03	-0.14	34.00	1.37	0.81	33.99
AA4HA3-5601	2.96	-0.10	-1.07	5.56	-0.14	-0.60	32.20	-0.43	-0.25	32.17
ABF7MN-5602	3.34	0.28	2.87	6.21	0.51	2.09	32.00	-0.63	-0.37	32.54
ADP68W-5601	3.00	-0.06	-0.65	5.75	0.05	0.19	31.45	-1.18	-0.69	31.45
AEGC6E-5601	3.10	0.04	0.38	5.50	-0.20	-0.85	34.30	1.67	0.98	34.31
AHRMVN-5602	3.00	-0.06	-0.65	6.00	0.30	1.22	30.00	-2.63	-1.54	30.00
ANLHYG-5605	3.00	-0.06	-0.65	5.80	0.10	0.39	31.10	-1.53	-0.89	31.15
B2RNV2-5601	3.10	0.04	0.38	5.70	0.00	-0.02	32.90	0.27	0.16	32.95
B3XA2D-5601	3.00	-0.06	-0.65	5.00	-0.70	-2.91	36.00	3.37	1.98	36.87
B9MWTD-5601	3.00	-0.06	-0.65	5.30	-0.40	-1.67	34.47	1.84	1.08	34.47
BC33R8-5605	3.10	0.04	0.38	5.50	-0.20	-0.85	34.30	1.67	0.98	34.31
BEAME9-5602	3.20	0.14	1.42	5.70	0.00	-0.02	34.15	1.52	0.89	34.15
BGF839-5601	3.10	0.04	0.38	5.90	0.20	0.81	31.70	-0.93	-0.54	31.70
BHQZ2G-5601	2.90	-0.16	-1.69	5.10	-0.60	-2.50	34.65	2.02	1.19	34.65



TABLE 1  
Stain A, continued

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
C3D2LH-5601	<b>2.98</b>	-0.08	-0.86	<b>5.77</b>	0.07	0.27	<b>31.00</b>	-1.63	-0.95	31.10
C48MGU-5601	<b>2.99</b>	-0.07	-0.76	<b>5.47</b>	-0.23	-0.97	<b>33.14</b>	0.51	0.30	33.14
CJZART-5602	<b>3.00</b>	-0.06	-0.65	<b>5.75</b>	0.05	0.19	<b>31.40</b>	-1.23	-0.72	31.45
CPQQZC-5601	<b>3.00</b>	-0.06	-0.65	<b>6.00</b>	0.30	1.22	<b>30.00</b>	-2.63	-1.54	30.00
CVX4BH-5605	<b>3.00</b>	-0.06	-0.65	<b>5.50</b>	-0.20	-0.85	<b>33.00</b>	0.37	0.22	33.06
CXJRN3-5602	<b>3.00</b>	-0.06	-0.65	<b>6.00</b>	0.30	1.22	<b>30.00</b>	-2.63	-1.54	30.00
CYDHTW-5602	<b>3.00</b>	-0.06	-0.65	<b>5.80</b>	0.10	0.39	<b>31.00</b>	-1.63	-0.95	31.15
D3TGGB-5601	<b>3.00</b>	-0.06	-0.65	<b>5.60</b>	-0.10	-0.43	<b>32.39</b>	-0.24	-0.14	32.39
D4NXT8-5605	<b>3.00</b>	-0.06	-0.65	<b>5.60</b>	-0.10	-0.43	<b>32.40</b>	-0.23	-0.13	32.39
D7BU4J-5601	<b>3.10</b>	0.04	0.38	<b>5.60</b>	-0.10	-0.43	<b>33.60</b>	0.97	0.57	33.61
D7VBJL-5601	<b>3.00</b>	-0.06	-0.65	<b>5.30</b>	-0.40	-1.67	<b>34.50</b>	1.87	1.10	34.47
D9EPMM-5601	<b>3.10</b>	0.04	0.38	<b>5.60</b>	-0.10	-0.43	<b>33.60</b>	0.97	0.57	33.61
D9HW7H-5601	<b>3.00</b>	-0.06	-0.65	<b>5.80</b>	0.10	0.39	<b>31.00</b>	-1.63	-0.95	31.15
DPKWTC-5601	<b>3.00</b>	-0.06	-0.65	<b>5.80</b>	0.10	0.39	<b>31.10</b>	-1.53	-0.89	31.15
DUJWMF-5601	<b>3.00</b>	-0.06	-0.65	<b>6.00</b>	0.30	1.22	<b>30.00</b>	-2.63	-1.54	30.00
DW388C-5601	<b>3.00</b>	-0.06	-0.65	<b>5.80</b>	0.10	0.39	<b>31.00</b>	-1.63	-0.95	31.15
DZ4BWE-5601	<b>3.20</b>	0.14	1.42	<b>5.60</b>	-0.10	-0.43	<b>34.80</b>	2.17	1.27	34.85
E2B4BD-5601	<b>3.00</b>	-0.06	-0.65	<b>5.60</b>	-0.10	-0.43	<b>32.40</b>	-0.23	-0.13	32.39
E9DWK9-5605	<b>3.10</b>	0.04	0.38	<b>5.95</b>	0.25	1.01	<b>31.40</b>	-1.23	-0.72	31.40
ED9NWB-5602	<b>3.10</b>	0.04	0.38	<b>5.70</b>	0.00	-0.02	<b>32.95</b>	0.32	0.19	32.95
EE3EYJ-5602	<b>3.00</b>	-0.06	-0.65	<b>6.00</b>	0.30	1.22	<b>30.00</b>	-2.63	-1.54	30.00
EPHG6H-5601	<b>3.00</b>	-0.06	-0.65	<b>5.60</b>	-0.10	-0.43	<b>32.39</b>	-0.24	-0.14	32.39

TABLE 1  
Stain A, continued

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
EV8YKE-5601	3.20	0.14	1.42	5.90	0.20	0.81	32.80	0.17	0.10	32.85
EXRQPP-5601	3.06	0.00	-0.03	5.83	0.13	0.52	31.60	-1.03	-0.60	31.66
F7PUKE-5601	3.00	-0.06	-0.65	5.50	-0.20	-0.85	33.00	0.37	0.22	33.06
F9ARMB-5602	3.14	0.08	0.80	5.77	0.07	0.27	33.00	0.37	0.22	32.97
FCA3E6-5601	3.00	-0.06	-0.65	5.60	-0.10	-0.43	32.40	-0.23	-0.13	32.39
FK2H49-5602	3.06	0.00	-0.03	5.89	0.19	0.76	31.30	-1.33	-0.78	31.30
FPHN34-5605	3.00	-0.06	-0.65	5.50	-0.20	-0.85	33.00	0.37	0.22	33.06
FTWK7K-5601	3.10	0.04	0.38	5.70	0.00	-0.02	33.00	0.37	0.22	32.95
FUVJQD-5602	3.10	0.04	0.38	5.70	0.00	-0.02	33.00	0.37	0.22	32.95
G48FXN-5601	3.00	-0.06	-0.65	6.00	0.30	1.22	0.50	-32.13	-18.82 X	30.00
G4UJV6-5605	3.10	0.04	0.38	5.80	0.10	0.39	32.00	-0.63	-0.37	32.31
GBUYNJ-5601	3.00	-0.06	-0.65	5.50	-0.20	-0.85	33.10	0.47	0.28	33.06
GCQCAQ-5601	3.10	0.04	0.38	5.70	0.00	-0.02	33.00	0.37	0.22	32.95
GNJVQG-5602	3.13	0.07	0.69	5.70	0.00	-0.02	33.00	0.37	0.22	33.31
GQPDND-5601	3.10	0.04	0.38	5.50	-0.20	-0.85	34.30	1.67	0.98	34.31
GTWRGC-5602	3.00	-0.06	-0.65	5.50	-0.20	-0.85	36.50	3.87	2.27	33.06
GVZR9W-5605	3.00	-0.06	-0.65	6.00	0.30	1.22	30.00	-2.63	-1.54	30.00
GWC7XR-5602	2.10	-0.96	-9.98 X	3.70	-2.00	-8.28 X	34.60	1.97	1.16	34.58
GWD49M-5601	2.92	-0.14	-1.48	5.62	-0.08	-0.35	31.30	-1.33	-0.78	31.30
H24XJT-5602	3.20	0.14	1.42	5.50	-0.20	-0.85	36.00	3.37	1.98	35.58
H8QM7N-5602	3.00	-0.06	-0.65	5.50	-0.20	-0.85	33.00	0.37	0.22	33.06
H9JG28-5602	3.10	0.04	0.38	5.90	0.20	0.81	31.70	-0.93	-0.54	31.70

TABLE 1  
Stain A, continued

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
HBMBG4-5601	3.00	-0.06	-0.65	5.80	0.10	0.39	31.00	-1.63	-0.95	31.15
HELRCQ-5602	3.04	-0.02	-0.24	6.12	0.42	1.71	30.00	-2.63	-1.54	29.78
HFZCJM-5602	3.10	0.04	0.38	5.60	-0.10	-0.43	33.80	1.17	0.69	33.61
HKT99D-5601	3.03	-0.03	-0.34	5.77	0.07	0.27	31.70	-0.93	-0.54	31.68
HTAP39-5601	3.00	-0.06	-0.65	6.00	0.30	1.22	30.00	-2.63	-1.54	30.00
JHLBDB-5602	3.06	0.00	-0.03	5.13	-0.57	-2.37	36.60	3.97	2.33	36.62
K6BA96-5601	3.10	0.04	0.38	5.90	0.20	0.81	31.60	-1.03	-0.60	31.70
K78MTC-5601	3.00	-0.06	-0.65	5.80	0.10	0.39	31.15	-1.48	-0.86	31.15
KEJMJ8-5602	3.10	0.04	0.38	5.70	0.00	-0.02	33.00	0.37	0.22	32.95
KF969L-5601	3.00	-0.06	-0.65	5.80	0.10	0.39	31.10	-1.53	-0.89	31.15
KHZYCH-5602	3.00	-0.06	-0.65	5.50	-0.20	-0.85	33.00	0.37	0.22	33.06
KPLWZ6-5605	3.20	0.14	1.42	5.70	0.00	-0.02	33.90	1.27	0.75	34.15
KWLCPC-5602	3.04	-0.02	-0.24	5.76	0.06	0.23	32.00	-0.63	-0.37	31.86
KYMFFE-5601	3.09	0.03	0.28	5.82	0.12	0.48	32.07	-0.56	-0.33	32.07
LEVQKC-5602	3.10	0.04	0.38	5.60	-0.10	-0.43	33.60	0.97	0.57	33.61
LR9QJQ-5601	3.15	0.09	0.90	5.80	0.10	0.39	33.00	0.37	0.22	32.90
LTJNW9-5605	3.00	-0.06	-0.65	5.10	-0.60	-2.50	36.00	3.37	1.98	36.03
LWDWPG-5601	6.08	3.02	31.27 X	11.69	5.99	24.71 X	31.34	-1.29	-0.75	31.34
M3XCVZ-5602	3.20	0.14	1.42	5.70	0.00	-0.02	33.94	1.31	0.77	34.15
MAH6DQ-5602	3.09	0.03	0.28	5.67	-0.03	-0.14	33.00	0.37	0.22	33.02
MDHGAQ-5601	3.28	0.22	2.25	5.76	0.06	0.23	34.70	2.07	1.22	34.71
MFN2WQ-5601	3.01	-0.05	-0.55	5.67	-0.03	-0.14	32.10	-0.53	-0.31	32.06

TABLE 1  
Stain A, continued

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
MHDA3L-5601	3.00	-0.06	-0.65	5.80	0.10	0.39	31.00	-1.63	-0.95	31.15
MM4RB6-5602	3.10	0.04	0.38	5.70	0.00	-0.02	32.00	-0.63	-0.37	32.95
MPT2E6-5602	3.10	0.04	0.38	5.60	-0.10	-0.43	34.00	1.37	0.81	33.61
MWCE8C-5601	3.10	0.04	0.38	5.77	0.07	0.27	32.50	-0.13	-0.07	32.50
N7YMK9-5602	3.10	0.04	0.38	6.00	0.30	1.22	31.00	-1.63	-0.95	31.11
NDEEWR-5601	3.00	-0.06	-0.65	6.00	0.30	1.22	30.00	-2.63	-1.54	30.00
NJYL96-5601	3.30	0.24	2.46	5.80	0.10	0.39	34.68	2.05	1.20	34.68
NKYEBJ-5602	3.00	-0.06	-0.65	5.70	0.00	-0.02	31.80	-0.83	-0.48	31.76
NRCCY3-5601	3.00	-0.06	-0.65	5.80	0.10	0.39	31.10	-1.53	-0.89	31.15
NUF6T2-5601	3.00	-0.06	-0.65	5.60	-0.10	-0.43	32.40	-0.23	-0.13	32.39
NZCMD9-5602	3.10	0.04	0.38	5.70	0.00	-0.02	32.50	-0.13	-0.07	32.95
P6ZPYJ-5601	3.10	0.04	0.38	5.80	0.10	0.39	32.30	-0.33	-0.19	32.31
PAR4ED-5601	3.00	-0.06	-0.65	5.80	0.10	0.39	31.10	-1.53	-0.89	31.15
PLJUVB-5605	3.10	0.04	0.38	5.50	-0.20	-0.85	34.30	1.67	0.98	34.31
PNCJHD-5601	3.00	-0.06	-0.65	5.20	-0.50	-2.08	35.00	2.37	1.39	35.23
Q3NEEK-5602	3.06	0.00	-0.03	5.88	0.18	0.72	31.33	-1.30	-0.76	31.36
Q9C24Y-5601	3.20	0.14	1.42	5.30	-0.40	-1.67	37.10	4.47	2.62	37.14
QDP4RF-5601	3.00	-0.06	-0.65	6.00	0.30	1.22	0.48	-32.15	-18.83 X	30.00
QKMP3N-5602	3.00	-0.06	-0.65	6.00	0.30	1.22	30.00	-2.63	-1.54	30.00
QL6TH2-5605	3.25	0.19	1.94	5.50	-0.20	-0.85	36.20	3.57	2.09	36.22
QM9F4R-5601	3.00	-0.06	-0.65	5.30	-0.40	-1.67	34.47	1.84	1.08	34.47
QNK9ZF-5602	2.90	-0.16	-1.69	5.60	-0.10	-0.43	31.00	-1.63	-0.95	31.19

TABLE 1  
Stain A, continued

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
QXCL4L-5601	32.00	28.94	299.98 X	59.00	53.30	220.07 X	32.85	0.22	0.13	32.85
R7G336-5602	3.20	0.14	1.42	5.70	0.00	-0.02	33.00	0.37	0.22	34.15
RLV2FJ-5602	3.20	0.14	1.42	5.60	-0.10	-0.43	34.80	2.17	1.27	34.85
RLV9D6-5602	3.10	0.04	0.38	6.00	0.30	1.22	31.11	-1.52	-0.89	31.11
RRHVBV-5602	3.10	0.04	0.38	5.90	0.20	0.81	32.00	-0.63	-0.37	31.70
RTWMY7-5601	3.00	-0.06	-0.65	5.60	-0.10	-0.43	32.39	-0.24	-0.14	32.39
RWUY2X-5602	3.20	0.14	1.42	5.90	0.20	0.81	33.00	0.37	0.22	32.85
T8R8D9-5601	3.00	-0.06	-0.63	6.04	0.34	1.40	29.78	-2.85	-1.67	29.78
T97LRA-5605	3.10	0.04	0.38	5.30	-0.40	-1.67	35.30	2.67	1.57	35.80
THRU76-5601	3.17	0.11	1.11	5.85	0.15	0.60	32.80	0.17	0.10	32.81
TUA8RF-5602	2.17	-0.89	-9.26 X	4.17	-1.53	-6.34 X	31.00	-1.63	-0.95	31.36
TVCCYA-5601	3.00	-0.06	-0.65	6.00	0.30	1.22	30.00	-2.63	-1.54	30.00
TWBBJ3-5602	3.00	-0.06	-0.65	5.70	0.00	-0.02	33.00	0.37	0.22	31.76
TXMCYA-5601	3.00	-0.06	-0.65	5.80	0.10	0.39	31.00	-1.63	-0.95	31.15
U2Z8LY-5601	3.00	-0.06	-0.65	5.60	-0.10	-0.43	32.40	-0.23	-0.13	32.39
U7AMT2-5601	3.10	0.04	0.38	5.60	-0.10	-0.43	33.60	0.97	0.57	33.61
U8746Y-5602	0.79	-2.27	-23.56 X	1.42	-4.28	-17.69 X	33.80	1.17	0.69	33.80
UC2UBB-5602	3.00	-0.06	-0.65	5.80	0.10	0.39	31.15	-1.48	-0.86	31.15
V786K6-5605	3.20	0.14	1.42	5.80	0.10	0.39	33.50	0.87	0.51	33.49
VG9HQX-5601	3.00	-0.06	-0.65	5.70	0.00	-0.02	31.80	-0.83	-0.48	31.76
VK9UKC-5602	3.00	-0.06	-0.65	5.50	-0.20	-0.85	33.00	0.37	0.22	33.06
VTKXM4-5605	3.00	-0.06	-0.65	5.30	-0.40	-1.67	34.00	1.37	0.81	34.47

TABLE 1  
Stain A, continued

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
VUGDY2-5602	3.35	0.29	2.97	6.22	0.52	2.13	32.00	-0.63	-0.37	32.59
W4KVXB-5602	3.10	0.04	0.38	5.70	0.00	-0.02	33.00	0.37	0.22	32.95
WLYC24-5601	3.10	0.04	0.38	5.70	0.00	-0.02	32.95	0.32	0.19	32.95
WNMXY-5601	3.35	0.29	2.97	6.22	0.52	2.13	32.00	-0.63	-0.37	32.59
WV8UTA-5601	2.74	-0.32	-3.35 X	5.40	-0.30	-1.26	30.00	-2.63	-1.54	30.49
WXDEGA-5601	3.00	-0.06	-0.65	6.00	0.30	1.22	30.00	-2.63	-1.54	30.00
WXF2Z9-5602	3.00	-0.06	-0.65	6.00	0.30	1.22	30.00	-2.63	-1.54	30.00
WYLQWQ-5601	3.13	0.07	0.69	5.29	-0.41	-1.71	36.50	3.87	2.27	36.28
X34794-5601	3.10	0.04	0.38	5.60	-0.10	-0.43	33.60	0.97	0.57	33.61
X6QRUY-5601	3.45	0.39	4.01 X	6.25	0.55	2.25	34.00	1.37	0.81	33.50
X8VHW9-5601	3.00	-0.06	-0.65	5.50	-0.20	-0.85	33.10	0.47	0.28	33.06
XA6FGG-5602	3.00	-0.06	-0.65	6.00	0.30	1.22	30.00	-2.63	-1.54	30.00
XD6QBV-5602	18.30	15.24	157.95 X	32.50	26.80	110.64 X	34.30	1.67	0.98	34.27
XDG9LN-5602	3.00	-0.06	-0.65	6.00	0.30	1.22	30.00	-2.63	-1.54	30.00
XEH2N3-5601	3.00	-0.06	-0.65	5.50	-0.20	-0.85	33.06	0.43	0.25	33.06
XJTBDC-5602	3.10	0.04	0.38	5.60	-0.10	-0.43	34.00	1.37	0.81	33.61
XUAW3E-5601	3.00	-0.06	-0.65	5.40	-0.30	-1.26	33.70	1.07	0.63	33.75
Y4WETR-5601	3.10	0.04	0.38	5.60	-0.10	-0.43	33.60	0.97	0.57	33.61
Y7H7Y3-5601	2.95	-0.11	-1.17	5.64	-0.06	-0.27	31.50	-1.13	-0.66	31.54
YC7TP3-5605	2.90	-0.16	-1.69	5.80	0.10	0.39	30.00	-2.63	-1.54	30.00
YGGWLW-5605	3.10	0.04	0.38	5.60	-0.10	-0.43	34.00	1.37	0.81	33.61
YGZK26-5602	3.12	0.06	0.59	5.95	0.25	1.01	31.60	-1.03	-0.60	31.63

TABLE 1  
**Stain A, continued**

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
YHTHCX-5602	3.00	-0.06	-0.65	5.80	0.10	0.39	31.00	-1.63	-0.95	31.15
YKYW2C-5602	3.00	-0.06	-0.65	5.50	-0.20	-0.85	33.05	0.42	0.25	33.06
YU3BJ4-5602	3.00	-0.06	-0.65	6.00	0.30	1.22	30.00	-2.63	-1.54	30.00
YVJF8U-5601	3.00	-0.06	-0.65	5.50	-0.20	-0.85	33.00	0.37	0.22	33.06
YVJHQ7-5601	3.07	0.01	0.07	5.80	0.10	0.39	31.90	-0.73	-0.42	31.96
YX4EBQ-5602	3.00	-0.06	-0.65	6.00	0.30	1.22	30.00	-2.63	-1.54	30.00
Z3EP67-5602	3.14	0.08	0.80	5.83	0.13	0.52	32.54	-0.09	-0.05	32.59
Z8U9BU-5602	3.00	-0.06	-0.65	5.00	-0.70	-2.91	36.90	4.27	2.50	36.87
ZACJUR-5601	3.00	-0.06	-0.65	5.80	0.10	0.39	31.10	-1.53	-0.89	31.15
ZGENT3-5601	3.20	0.14	1.42	5.80	0.10	0.39	33.48	0.85	0.50	33.49
ZPNZ2T-5601	3.20	0.14	1.42	5.70	0.00	-0.02	34.20	1.57	0.92	34.15
ZTLJ4R-5601	3.25	0.19	1.94	5.89	0.19	0.76	33.00	0.37	0.22	33.49
Grand Mean	3.06			5.70			32.63			32.61
Standard Deviation	0.10			0.24			1.71			1.72
Participants Included in calculations	197			198			208			210
Participants excluded from calculations (indicated by X)	13			12			2			0

**Stain A Preparation Angle: 34.1°**

TABLE 1  
Stain B

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
28Z7RF- 5601	2.00	0.31	2.53	9.00	0.86	2.63	13.00	1.05	1.11	12.84
2E7TNP- 5601	1.70	0.01	0.12	8.00	-0.14	-0.43	12.20	0.25	0.27	12.27
2NQ3BX- 5601	1.60	-0.09	-0.69	8.50	0.36	1.10	10.85	-1.10	-1.16	10.85
2QDNXU- 5601	1.70	0.01	0.12	8.40	0.26	0.79	11.00	-0.95	-1.00	11.68
2Y64LX- 5602	1.60	-0.09	-0.69	6.60	-1.54	-4.71 X	14.00	2.05	2.17	14.03
2Z438R- 5601	1.60	-0.09	-0.69	8.00	-0.14	-0.43	11.50	-0.45	-0.47	11.54
32EBPQ- 5601	1.90	0.21	1.73	8.34	0.20	0.61	13.17	1.22	1.29	13.17
33RZUN- 5605	1.50	-0.19	-1.49	8.00	-0.14	-0.43	10.80	-1.15	-1.21	10.81
34MG98- 5601	1.60	-0.09	-0.69	8.30	0.16	0.49	11.00	-0.95	-1.00	11.11
36UZQF- 5601	1.70	0.01	0.12	8.35	0.21	0.64	11.74	-0.21	-0.22	11.75
36VTRU- 5601	1.60	-0.09	-0.69	7.85	-0.29	-0.89	11.80	-0.15	-0.15	11.76
3BFVRJ- 5601	1.78	0.09	0.76	8.43	0.29	0.89	12.20	0.25	0.27	12.19
3CCC72- 5602	1.60	-0.09	-0.69	8.30	0.16	0.49	11.11	-0.84	-0.88	11.11
3G9VC7- 5602	1.80	0.11	0.92	8.90	0.76	2.32	12.00	0.05	0.06	11.67
3P29AK- 5602	1.80	0.11	0.92	8.30	0.16	0.49	12.40	0.45	0.48	12.53
3PJFBV- 5601	1.70	0.01	0.12	8.10	-0.04	-0.12	12.10	0.15	0.16	12.12
3PYLQL- 5601	1.70	0.01	0.12	7.90	-0.24	-0.73	12.40	0.45	0.48	12.43
4BCV4N- 5605	1.60	-0.09	-0.69	7.20	-0.94	-2.88	12.80	0.85	0.90	12.84
4CTXY4- 5601	1.80	0.11	0.92	8.00	-0.14	-0.43	13.00	1.05	1.11	13.00
4F9KKV- 5602	1.70	0.01	0.12	8.45	0.31	0.95	11.60	-0.35	-0.37	11.61
4LUA8Q- 5605	1.70	0.01	0.12	8.30	0.16	0.49	11.80	-0.15	-0.15	11.82
4TUUAL- 5601	4.00	2.31	18.62 X	21.00	12.86	39.33 X	11.00	-0.95	-1.00	10.98



TABLE 1  
Stain B, continued

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
4ZH9L9- 5602	1.60	-0.09	-0.69	7.80	-0.34	-1.04	12.00	0.05	0.06	11.84
694T3Q- 5601	1.60	-0.09	-0.69	8.10	-0.04	-0.12	11.00	-0.95	-1.00	11.39
6G3D77- 5601	1.70	0.01	0.12	8.50	0.36	1.10	11.50	-0.45	-0.47	11.54
6KF7BD- 5601	2.50	0.81	6.55 X	9.00	0.86	2.63	16.00	4.05	4.28 X	16.13 X
6R2962- 5602	1.90	0.21	1.73	8.50	0.36	1.10	13.00	1.05	1.11	12.92
6U4YKP- 5601	8.00	6.31	50.80 X	39.00	30.86	94.38 X	11.80	-0.15	-0.15	11.84
72JCP7- 5601	1.70	0.01	0.12	8.00	-0.14	-0.43	12.30	0.35	0.37	12.27
77WXVR- 5602	1.69	0.00	0.04	7.49	-0.65	-1.99	13.00	1.05	1.11	13.04
794D3X- 5602	1.50	-0.19	-1.49	7.50	-0.64	-1.96	11.50	-0.45	-0.47	11.54
7BP47N- 5605	1.77	0.08	0.68	8.27	0.13	0.40	12.30	0.35	0.37	12.36
7CY9LX- 5602	1.66	-0.03	-0.20	8.34	0.20	0.61	11.40	-0.55	-0.58	11.48
7ERZX4- 5602	1.67	-0.02	-0.12	7.71	-0.43	-1.32	12.50	0.55	0.58	12.51
7JMR8L- 5601	1.60	-0.09	-0.69	7.60	-0.54	-1.65	12.20	0.25	0.27	12.15
7JQ6ZN- 5601	1.50	-0.19	-1.49	8.00	-0.14	-0.43	10.80	-1.15	-1.21	10.81
7L8JDW- 5602	1.50	-0.19	-1.49	8.00	-0.14	-0.43	10.36	-1.59	-1.67	10.81
7W7JLU- 5605	1.70	0.01	0.12	8.40	0.26	0.79	11.00	-0.95	-1.00	11.68
7WN88V- 5601	1.60	-0.09	-0.69	8.00	-0.14	-0.43	11.50	-0.45	-0.47	11.54
84M843- 5602	1.65	-0.04	-0.29	8.00	-0.14	-0.43	12.00	0.05	0.06	11.90
8CZ7RM- 5605	1.50	-0.19	-1.49	8.20	0.06	0.18	11.00	-0.95	-1.00	10.54
8K79TD- 5602	1.80	0.11	0.92	8.20	0.06	0.18	12.68	0.73	0.77	12.68
8L72UR- 5601	1.70	0.01	0.12	8.30	0.16	0.49	11.81	-0.14	-0.14	11.82
8T6RWU- 5602	1.54	-0.15	-1.17	7.24	-0.90	-2.75	12.28	0.33	0.35	12.28

TABLE 1  
Stain B, continued

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
969HAL-5601	1.92	0.23	1.89	8.32	0.18	0.55	13.00	1.05	1.11	13.34
98ZCDH-5602	1.60	-0.09	-0.69	8.40	0.26	0.79	11.00	-0.95	-1.00	10.98
99BJAJ-5602	1.90	0.21	1.73	8.10	-0.04	-0.12	13.56	1.61	1.70	13.57
9EG3GN-5601	1.69	0.00	0.04	7.70	-0.44	-1.35	12.70	0.75	0.79	12.68
9N9JAY-5601	1.65	-0.04	-0.29	8.36	0.22	0.67	11.00	-0.95	-1.00	11.38
9ZG8JW-5602	1.70	0.01	0.12	8.00	-0.14	-0.43	12.00	0.05	0.06	12.27
9ZHYEJ-5602	1.80	0.11	0.92	8.20	0.06	0.18	12.70	0.75	0.79	12.68
A4DCDT-5601	17.00	15.31	123.20 X	82.00	73.86	225.89 X	11.90	-0.05	-0.05	11.97
A7692M-5601	1.72	0.03	0.28	8.02	-0.12	-0.37	12.40	0.45	0.48	12.38
AA4HA3-5601	1.63	-0.06	-0.45	8.13	-0.01	-0.03	11.60	-0.35	-0.37	11.57
ABF7MN-5602	1.91	0.22	1.81	8.34	0.20	0.61	13.00	1.05	1.11	13.24
ADP68W-5601	1.50	-0.19	-1.49	8.00	-0.14	-0.43	10.81	-1.14	-1.20	10.81
AEGC6E-5601	1.70	0.01	0.12	8.30	0.16	0.49	11.80	-0.15	-0.15	11.82
AHRMVN-5602	1.00	-0.69	-5.51 X	8.00	-0.14	-0.43	10.00	-1.95	-2.05	7.18 X
ANLHYG-5605	1.60	-0.09	-0.69	8.30	0.16	0.49	11.10	-0.85	-0.89	11.11
B2RNV2-5601	1.60	-0.09	-0.69	8.20	0.06	0.18	11.30	-0.65	-0.68	11.25
B3XA2D-5601	1.50	-0.19	-1.49	7.25	-0.89	-2.72	12.00	0.05	0.06	11.94
B9MWTD-5601	1.70	0.01	0.12	7.40	-0.74	-2.26	13.29	1.34	1.42	13.28
BC33R8-5605	1.70	0.01	0.12	7.80	-0.34	-1.04	12.50	0.55	0.58	12.59
BEAME9-5602	1.80	0.11	0.92	8.20	0.06	0.18	12.68	0.73	0.77	12.68
BGF839-5601	1.70	0.01	0.12	8.50	0.36	1.10	11.50	-0.45	-0.47	11.54
BHQZ2G-5601	1.50	-0.19	-1.49	8.50	0.36	1.10	10.17	-1.78	-1.87	10.16

TABLE 1  
**Stain B, continued**

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
C3D2LH-5601	1.65	-0.04	-0.29	8.16	0.02	0.06	12.00	0.05	0.06	11.67
C48MGU-5601	1.57	-0.12	-0.93	7.70	-0.44	-1.35	11.76	-0.19	-0.20	11.76
CJZART-5602	1.75	0.06	0.52	8.00	-0.14	-0.43	12.60	0.65	0.69	12.64
CPQQZC-5601	1.50	-0.19	-1.49	8.40	0.26	0.79	10.00	-1.95	-2.05	10.29
CVX4BH-5605	1.75	0.06	0.52	8.00	-0.14	-0.43	13.00	1.05	1.11	12.64
CXJRN3-5602	1.50	-0.19	-1.49	8.00	-0.14	-0.43	11.00	-0.95	-1.00	10.81
CYDHTW-5602	1.60	-0.09	-0.69	8.20	0.06	0.18	11.00	-0.95	-1.00	11.25
D3TGGB-5601	1.60	-0.09	-0.69	8.20	0.06	0.18	11.25	-0.70	-0.73	11.25
D4NXT8-5605	1.60	-0.09	-0.69	8.00	-0.14	-0.43	11.50	-0.45	-0.47	11.54
D7BU4J-5601	1.70	0.01	0.12	8.20	0.06	0.18	12.00	0.05	0.06	11.97
D7VBJL-5601	1.70	0.01	0.12	8.00	-0.14	-0.43	12.30	0.35	0.37	12.27
D9EPMM-5601	1.70	0.01	0.12	8.00	-0.14	-0.43	12.30	0.35	0.37	12.27
D9HW7H-5601	1.70	0.01	0.12	8.30	0.16	0.49	11.00	-0.95	-1.00	11.82
DPKWTC-5601	1.60	-0.09	-0.69	8.50	0.36	1.10	10.80	-1.15	-1.21	10.85
DUJWMF-5601	1.80	0.11	0.92	8.00	-0.14	-0.43	13.00	1.05	1.11	13.00
DW388C-5601	1.60	-0.09	-0.69	8.40	0.26	0.79	11.00	-0.95	-1.00	10.98
DZ4BWE-5601	1.70	0.01	0.12	8.00	-0.14	-0.43	12.30	0.35	0.37	12.27
E2B4BD-5601	1.60	-0.09	-0.69	8.30	0.16	0.49	11.10	-0.85	-0.89	11.11
E9DWK9-5605	1.65	-0.04	-0.29	8.54	0.40	1.22	11.14	-0.81	-0.85	11.14
ED9NWB-5602	1.80	0.11	0.92	8.40	0.26	0.79	12.37	0.42	0.45	12.37
EE3EYJ-5602	2.00	0.31	2.53	8.50	0.36	1.10	13.60	1.65	1.74	13.61
EPHG6H-5601	1.50	-0.19	-1.49	8.00	-0.14	-0.43	10.81	-1.14	-1.20	10.81

TABLE 1  
Stain B, continued

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
EV8YKE-5601	1.70	0.01	0.12	8.30	0.16	0.49	11.80	-0.15	-0.15	11.82
EXRQPP-5601	1.63	-0.06	-0.45	8.32	0.18	0.55	11.30	-0.65	-0.68	11.30
F7PUKE-5601	1.50	-0.19	-1.49	8.00	-0.14	-0.43	10.00	-1.95	-2.05	10.81
F9ARMB-5602	1.73	0.04	0.36	8.30	0.16	0.49	12.00	0.05	0.06	12.03
FCA3E6-5601	1.50	-0.19	-1.49	8.20	0.06	0.18	10.50	-1.45	-1.53	10.54
FK2H49-5602	1.53	-0.16	-1.25	8.42	0.28	0.86	10.47	-1.48	-1.56	10.47
FPHN34-5605	1.80	0.11	0.92	8.00	-0.14	-0.43	13.00	1.05	1.11	13.00
FTWK7K-5601	1.50	-0.19	-1.49	7.00	-1.14	-3.49 X	12.00	0.05	0.06	12.37
FUVJQD-5602	1.70	0.01	0.12	8.10	-0.04	-0.12	12.00	0.05	0.06	12.12
G48FXN-5601	2.00	0.31	2.53	8.00	-0.14	-0.43	0.25	-11.70	-12.34 X	14.48
G4UJV6-5605	1.80	0.11	0.92	7.40	-0.74	-2.26	14.00	2.05	2.17	14.08
GBUYNJ-5601	1.70	0.01	0.12	8.00	-0.14	-0.43	12.30	0.35	0.37	12.27
GCQCAQ-5601	1.70	0.01	0.12	7.50	-0.64	-1.96	13.10	1.15	1.22	13.10
GNJVQG-5602	1.74	0.05	0.44	8.26	0.12	0.37	12.00	0.05	0.06	12.16
GQPDND-5601	1.60	-0.09	-0.69	8.00	-0.14	-0.43	11.50	-0.45	-0.47	11.54
GTWRGC-5602	1.50	-0.19	-1.49	8.00	-0.14	-0.43	12.00	0.05	0.06	10.81
GVZR9W-5605	1.80	0.11	0.92	8.00	-0.14	-0.43	13.00	1.05	1.11	13.00
GWC7XR-5602	1.30	-0.39	-3.10 X	5.30	-2.84	-8.69 X	14.20	2.25	2.38	14.20
GWD49M-5601	1.60	-0.09	-0.69	8.00	-0.14	-0.43	11.54	-0.41	-0.43	11.54
H24XJT-5602	1.60	-0.09	-0.69	8.20	0.06	0.18	11.00	-0.95	-1.00	11.25
H8QM7N-5602	1.50	-0.19	-1.49	7.80	-0.34	-1.04	11.00	-0.95	-1.00	11.09
H9JG28-5602	1.90	0.21	1.73	8.10	-0.04	-0.12	13.60	1.65	1.74	13.57

TABLE 1  
Stain B, continued

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
HBMBG4-5601	1.70	0.01	0.12	8.20	0.06	0.18	12.00	0.05	0.06	11.97
HELRCQ-5602	1.59	-0.10	-0.77	8.90	0.76	2.32	10.00	-1.95	-2.05	10.29
HFZCJM-5602	1.70	0.01	0.12	8.30	0.16	0.49	12.10	0.15	0.16	11.82
HKT99D-5601	1.70	0.01	0.12	8.22	0.08	0.24	11.90	-0.05	-0.05	11.94
HTAP39-5601	2.00	0.31	2.53	8.60	0.46	1.41	13.00	1.05	1.11	13.45
JHLBDB-5602	1.69	0.00	0.04	7.50	-0.64	-1.96	13.02	1.07	1.13	13.02
K6BA96-5601	1.80	0.11	0.92	8.40	0.26	0.79	12.30	0.35	0.37	12.37
K78MTC-5601	1.60	-0.09	-0.69	8.20	0.06	0.18	11.25	-0.70	-0.73	11.25
KEJMJ8-5602	1.80	0.11	0.92	8.00	-0.14	-0.43	13.00	1.05	1.11	13.00
KF969L-5601	1.70	0.01	0.12	8.00	-0.14	-0.43	13.00	1.05	1.11	12.27
KHZYCH-5602	1.60	-0.09	-0.69	8.00	-0.14	-0.43	12.00	0.05	0.06	11.54
KPLWZ6-5605	1.80	0.11	0.92	8.30	0.16	0.49	12.50	0.55	0.58	12.53
KWLCPC-5602	1.63	-0.06	-0.45	8.31	0.17	0.52	11.00	-0.95	-1.00	11.31
KYMFFE-5601	1.63	-0.06	-0.45	8.28	0.14	0.43	11.35	-0.60	-0.63	11.35
LEVQKC-5602	1.70	0.01	0.12	8.00	-0.14	-0.43	12.30	0.35	0.37	12.27
LR9QJQ-5601	1.70	0.01	0.12	8.00	-0.14	-0.43	12.00	0.05	0.06	12.27
LTJNW9-5605	1.80	0.11	0.92	7.50	-0.64	-1.96	14.00	2.05	2.17	13.89
LWDWPG-5601	3.38	1.69	13.63 X	16.80	8.66	26.48 X	11.60	-0.35	-0.37	11.61
M3XCVZ-5602	1.70	0.01	0.12	8.40	0.26	0.79	11.59	-0.36	-0.38	11.68
MAH6DQ-5602	1.65	-0.04	-0.29	7.39	-0.75	-2.29	12.90	0.95	1.01	12.90
MDHGAQ-5601	2.03	0.34	2.77	8.32	0.18	0.55	14.10	2.15	2.27	14.12
MFN2WQ-5601	1.67	-0.02	-0.12	8.38	0.24	0.73	11.50	-0.45	-0.47	11.50

TABLE 1  
Stain B, continued

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
MHDA3L-5601	1.50	-0.19	-1.49	8.10	-0.04	-0.12	11.00	-0.95	-1.00	10.67
MM4RB6-5602	1.70	0.01	0.12	9.00	0.86	2.63	10.00	-1.95	-2.05	10.89
MPT2E6-5602	1.70	0.01	0.12	8.00	-0.14	-0.43	12.00	0.05	0.06	12.27
MWCE8C-5601	1.77	0.08	0.68	8.31	0.17	0.52	12.30	0.35	0.37	12.30
N7YMK9-5602	1.60	-0.09	-0.69	8.30	0.16	0.49	11.00	-0.95	-1.00	11.11
NDEEWR-5601	1.50	-0.19	-1.49	8.00	-0.14	-0.43	11.00	-0.95	-1.00	10.81
NJYL96-5601	1.50	-0.19	-1.49	8.00	-0.14	-0.43	10.81	-1.14	-1.20	10.81
NKYEBJ-5602	1.50	-0.19	-1.49	8.00	-0.14	-0.43	10.80	-1.15	-1.21	10.81
NRCCY3-5601	1.60	-0.09	-0.69	8.30	0.16	0.49	11.10	-0.85	-0.89	11.11
NUF6T2-5601	1.50	-0.19	-1.49	8.30	0.16	0.49	10.40	-1.55	-1.63	10.41
NZCMD9-5602	1.70	0.01	0.12	8.20	0.06	0.18	11.90	-0.05	-0.05	11.97
P6ZPYJ-5601	1.90	0.21	1.73	8.20	0.06	0.18	13.40	1.45	1.53	13.40
PAR4ED-5601	1.80	0.11	0.92	8.00	-0.14	-0.43	13.00	1.05	1.11	13.00
PLJUVB-5605	1.60	-0.09	-0.69	7.80	-0.34	-1.04	11.80	-0.15	-0.15	11.84
PNCJHD-5601	1.70	0.01	0.12	8.20	0.06	0.18	12.00	0.05	0.06	11.97
Q3NEEK-5602	1.65	-0.04	-0.29	8.49	0.35	1.07	11.19	-0.76	-0.80	11.21
Q9C24Y-5601	1.70	0.01	0.12	7.50	-0.64	-1.96	13.10	1.15	1.22	13.10
QDP4RF-5601	2.00	0.31	2.53	9.00	0.86	2.63	0.22	-11.73	-12.37 X	12.84
QKMP3N-5602	1.75	0.06	0.52	8.25	0.11	0.34	12.00	0.05	0.06	12.25
QL6TH2-5605	1.75	0.06	0.52	8.50	0.36	1.10	11.90	-0.05	-0.05	11.88
QM9F4R-5601	1.70	0.01	0.12	7.60	-0.54	-1.65	12.92	0.97	1.03	12.93
QNK9ZF-5602	1.70	0.01	0.12	8.00	-0.14	-0.43	12.00	0.05	0.06	12.27

TABLE 1  
Stain B, continued

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
QXCL4L- 5601	17.00	15.31	123.20 X	85.00	76.86	235.06 X	11.54	-0.41	-0.43	11.54
R7G336- 5602	1.80	0.11	0.92	8.60	0.46	1.41	12.00	0.05	0.06	12.08
RLV2FJ- 5602	1.80	0.11	0.92	8.10	-0.04	-0.12	12.80	0.85	0.90	12.84
RLV9D6- 5602	1.60	-0.09	-0.69	8.30	0.16	0.49	11.11	-0.84	-0.88	11.11
RRHVBV- 5602	1.70	0.01	0.12	7.70	-0.44	-1.35	13.00	1.05	1.11	12.75
RTWMY7- 5601	1.60	-0.09	-0.69	8.00	-0.14	-0.43	11.54	-0.41	-0.43	11.54
RWUY2X- 5602	1.70	0.01	0.12	8.40	0.26	0.79	12.00	0.05	0.06	11.68
T8R8D9- 5601	1.76	0.07	0.57	8.77	0.63	1.92	11.55	-0.40	-0.42	11.55
T97LRA- 5605	1.70	0.01	0.12	7.50	-0.64	-1.96	13.10	1.15	1.22	13.10
THRU76- 5601	1.80	0.11	0.92	8.12	-0.02	-0.06	12.80	0.85	0.90	12.81
TUA8RF- 5602	1.25	-0.44	-3.50 X	6.03	-2.11	-6.45 X	12.00	0.05	0.06	11.96
TVCCYA- 5601	2.00	0.31	2.53	8.00	-0.14	-0.43	14.50	2.55	2.69	14.48
TWBBJ3- 5602	1.70	0.01	0.12	8.10	-0.04	-0.12	12.00	0.05	0.06	12.12
TXMCYA- 5601	1.70	0.01	0.12	8.40	0.26	0.79	11.00	-0.95	-1.00	11.68
U2Z8LY- 5601	1.80	0.11	0.92	9.00	0.86	2.63	11.50	-0.45	-0.47	11.54
U7AMT2- 5601	1.80	0.11	0.92	8.10	-0.04	-0.12	12.80	0.85	0.90	12.84
U8746Y- 5602	0.48	-1.21	-9.70 X	2.25	-5.89	-18.01 X	12.30	0.35	0.37	12.32
UC2UBB- 5602	1.60	-0.09	-0.69	8.40	0.26	0.79	10.98	-0.97	-1.02	10.98
V786K6- 5605	1.60	-0.09	-0.69	7.80	-0.34	-1.04	11.80	-0.15	-0.15	11.84
VG9HQX- 5601	1.70	0.01	0.12	8.00	-0.14	-0.43	12.30	0.35	0.37	12.27
VK9UKC- 5602	1.80	0.11	0.92	7.90	-0.24	-0.73	13.00	1.05	1.11	13.17
VTKXM4- 5605	1.60	-0.09	-0.69	7.90	-0.24	-0.73	12.00	0.05	0.06	11.69

TABLE 1  
Stain B, continued

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
VUGDY2-5602	1.92	0.23	1.89	8.33	0.19	0.58	13.00	1.05	1.11	13.33
W4KVXB-5602	1.70	0.01	0.12	8.30	0.16	0.49	12.00	0.05	0.06	11.82
WLYC24-5601	1.70	0.01	0.12	8.10	-0.04	-0.12	12.12	0.17	0.18	12.12
WNMXMY-5601	1.92	0.23	1.89	8.33	0.19	0.58	13.00	1.05	1.11	13.33
WV8UTA-5601	1.52	-0.17	-1.33	7.44	-0.70	-2.14	12.00	0.05	0.06	11.79
WXDEGA-5601	1.90	0.21	1.73	8.50	0.36	1.10	13.00	1.05	1.11	12.92
WXF2Z9-5602	1.50	-0.19	-1.49	8.20	0.06	0.18	10.00	-1.95	-2.05	10.54
WYLQWQ-5601	1.83	0.14	1.16	7.81	-0.33	-1.01	13.50	1.55	1.64	13.55
X34794-5601	1.70	0.01	0.12	8.10	-0.04	-0.12	12.10	0.15	0.16	12.12
X6QRUY-5601	2.58	0.89	7.20 X	8.24	0.10	0.31	18.00	6.05	6.39 X	18.25 X
X8VHW9-5601	1.60	-0.09	-0.69	8.00	-0.14	-0.43	11.50	-0.45	-0.47	11.54
XA6FGG-5602	2.00	0.31	2.53	8.00	-0.14	-0.43	14.50	2.55	2.69	14.48
XD6QBV-5602	9.90	8.21	66.08 X	42.40	34.26	104.78 X	13.50	1.55	1.64	13.50
XDG9LN-5602	1.50	-0.19	-1.49	8.50	0.36	1.10	10.16	-1.79	-1.88	10.16
XEH2N3-5601	1.60	-0.09	-0.69	7.80	-0.34	-1.04	11.84	-0.11	-0.11	11.84
XJTBDC-5602	1.90	0.21	1.73	8.00	-0.14	-0.43	14.00	2.05	2.17	13.74
XUAW3E-5601	1.60	-0.09	-0.69	8.00	-0.14	-0.43	11.50	-0.45	-0.47	11.54
Y4WETR-5601	1.70	0.01	0.12	8.50	0.36	1.10	11.50	-0.45	-0.47	11.54
Y7H7Y3-5601	1.62	-0.07	-0.53	8.47	0.33	1.01	11.00	-0.95	-1.00	11.03
YC7TP3-5605	1.60	-0.09	-0.69	8.40	0.26	0.79	11.00	-0.95	-1.00	10.98
YGGWLW-5605	1.70	0.01	0.12	7.80	-0.34	-1.04	13.00	1.05	1.11	12.59
YGZK26-5602	1.66	-0.03	-0.20	8.43	0.29	0.89	11.40	-0.55	-0.58	11.36



TABLE 1  
**Stain B, continued**

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
YHTHCX-5602	1.70	0.01	0.12	8.40	0.26	0.79	11.00	-0.95	-1.00	11.68
YKYW2C-5602	1.60	-0.09	-0.69	8.10	-0.04	-0.12	11.39	-0.56	-0.59	11.39
YU3BJ4-5602	1.50	-0.19	-1.49	8.00	-0.14	-0.43	10.36	-1.59	-1.67	10.81
YVJF8U-5601	1.80	0.11	0.92	8.00	-0.14	-0.43	13.00	1.05	1.11	13.00
YVJHQ7-5601	1.63	-0.06	-0.45	8.24	0.10	0.31	11.40	-0.55	-0.58	11.41
YX4EBQ-5602	1.50	-0.19	-1.49	8.00	-0.14	-0.43	11.00	-0.95	-1.00	10.81
Z3EP67-5602	1.71	0.02	0.20	8.47	0.33	1.01	11.59	-0.36	-0.38	11.65
Z8U9BU-5602	1.50	-0.19	-1.49	7.00	-1.14	-3.49 X	12.40	0.45	0.48	12.37
ZACJUR-5601	1.70	0.01	0.12	8.30	0.16	0.49	11.80	-0.15	-0.15	11.82
ZGENT3-5601	1.80	0.11	0.92	8.10	-0.04	-0.12	12.83	0.88	0.93	12.84
ZPNZ2T-5601	1.70	0.01	0.12	7.90	-0.24	-0.73	12.40	0.45	0.48	12.43
ZTLJ4R-5601	1.66	-0.03	-0.20	8.18	0.04	0.12	11.00	-0.95	-1.00	11.71
Grand Mean	1.69			8.14			11.95			12.01
Standard Deviation	0.12			0.33			0.95			0.92
Participants Included in calculations	198			198			206			207
Participants excluded from calculations (indicated by X)	12			12			4			3

**Stain B Preparation Angle: 11.1°**

TABLE 1  
Stain C

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
28Z7RF- 5601	4.00	0.99	11.57 X	10.00	1.52	4.39 X	24.00	3.11	2.76	23.58
2E7TNP- 5601	3.00	-0.01	-0.14	8.40	-0.08	-0.23	20.90	0.01	0.01	20.92
2NQ3BX- 5601	3.00	-0.01	-0.14	8.50	0.02	0.06	20.17	-0.72	-0.64	20.67
2QDNXU- 5601	3.10	0.09	1.03	8.70	0.22	0.64	21.00	0.11	0.10	20.87
2Y64LX- 5602	3.00	-0.01	-0.14	7.00	-1.48	-4.27 X	25.00	4.11	3.65 X	25.38 X
2Z438R- 5601	2.90	-0.11	-1.31	8.20	-0.28	-0.80	20.70	-0.19	-0.17	20.71
32EBPQ- 5601	3.32	0.31	3.61 X	8.80	0.32	0.93	22.16	1.27	1.13	22.16
33RZUN- 5605	3.00	-0.01	-0.14	9.00	0.52	1.51	19.50	-1.39	-1.23	19.47
34MG98- 5601	3.10	0.09	1.03	8.90	0.42	1.22	20.00	-0.89	-0.79	20.38
36UZQF- 5601	3.00	-0.01	-0.14	8.65	0.17	0.50	20.29	-0.60	-0.53	20.29
36VTRU- 5601	2.89	-0.12	-1.43	7.99	-0.49	-1.41	21.20	0.31	0.28	21.20
3BFVRJ- 5601	3.02	0.01	0.09	8.66	0.18	0.52	20.40	-0.49	-0.43	20.41
3CCC72- 5602	3.00	-0.01	-0.14	8.00	-0.48	-1.38	22.02	1.13	1.00	22.02
3G9VC7- 5602	3.20	0.19	2.20	8.70	0.22	0.64	22.00	1.11	0.99	21.58
3P29AK- 5602	3.10	0.09	1.03	8.50	0.02	0.06	21.80	0.91	0.81	21.39
3PJFBV- 5601	3.10	0.09	1.03	8.60	0.12	0.35	21.10	0.21	0.19	21.13
3PYLQL- 5601	3.00	-0.01	-0.14	8.40	-0.08	-0.23	20.90	0.01	0.01	20.92
4BCV4N- 5605	3.10	0.09	1.03	7.70	-0.78	-2.25	23.70	2.81	2.49	23.74
4CTXY4- 5601	3.00	-0.01	-0.14	8.50	0.02	0.06	20.50	-0.39	-0.35	20.67
4F9KKV- 5602	3.00	-0.01	-0.14	8.40	-0.08	-0.23	20.90	0.01	0.01	20.92
4LUA8Q- 5605	3.10	0.09	1.03	8.40	-0.08	-0.23	21.70	0.81	0.72	21.66
4TUUAL- 5601	7.00	3.99	46.69 X	21.00	12.52	36.15 X	20.00	-0.89	-0.79	19.47

TABLE 1  
Stain C, continued

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
4ZH9L9- 5602	<b>2.80</b>	-0.21	-2.48	<b>8.00</b>	-0.48	-1.38	<b>20.00</b>	-0.89	-0.79	20.49
694T3Q- 5601	<b>3.00</b>	-0.01	-0.14	<b>8.50</b>	0.02	0.06	<b>21.00</b>	0.11	0.10	20.67
6G3D77- 5601	<b>3.00</b>	-0.01	-0.14	<b>8.50</b>	0.02	0.06	<b>21.00</b>	0.11	0.10	20.67
6KF7BD- 5601	<b>4.00</b>	0.99	11.57 X	<b>9.00</b>	0.52	1.51	<b>26.00</b>	5.11	4.54 X	26.39 X
6R2962- 5602	<b>3.00</b>	-0.01	-0.14	<b>8.90</b>	0.42	1.22	<b>20.00</b>	-0.89	-0.79	19.70
6U4YKP- 5601	<b>12.50</b>	9.49	111.08 X	<b>35.00</b>	26.52	76.56 X	<b>20.90</b>	0.01	0.01	20.92
72JCP7- 5601	<b>3.10</b>	0.09	1.03	<b>8.30</b>	-0.18	-0.51	<b>21.90</b>	1.01	0.90	21.93
77WXVR- 5602	<b>3.06</b>	0.05	0.56	<b>8.37</b>	-0.11	-0.31	<b>22.00</b>	1.11	0.99	21.44
794D3X- 5602	<b>3.00</b>	-0.01	-0.14	<b>8.00</b>	-0.48	-1.38	<b>22.00</b>	1.11	0.99	22.02
7BP47N- 5605	<b>3.16</b>	0.15	1.73	<b>7.76</b>	-0.72	-2.07	<b>24.00</b>	3.11	2.76	24.03
7CY9LX- 5602	<b>2.84</b>	-0.17	-2.01	<b>8.82</b>	0.34	0.99	<b>18.70</b>	-2.19	-1.94	18.78
7ERZX4- 5602	<b>2.89</b>	-0.12	-1.43	<b>8.27</b>	-0.21	-0.60	<b>20.50</b>	-0.39	-0.35	20.45
7JMR8L- 5601	<b>2.80</b>	-0.21	-2.48	<b>8.40</b>	-0.08	-0.23	<b>19.50</b>	-1.39	-1.23	19.47
7JQ6ZN- 5601	<b>3.00</b>	-0.01	-0.14	<b>7.50</b>	-0.98	-2.82	<b>23.60</b>	2.71	2.41	23.58
7L8JDW- 5602	<b>3.00</b>	-0.01	-0.14	<b>9.00</b>	0.52	1.51	<b>19.26</b>	-1.63	-1.45	19.47
7W7JLU- 5605	<b>3.00</b>	-0.01	-0.14	<b>9.00</b>	0.52	1.51	<b>19.00</b>	-1.89	-1.68	19.47
7WN88V- 5601	<b>3.10</b>	0.09	1.03	<b>8.40</b>	-0.08	-0.23	<b>21.70</b>	0.81	0.72	21.66
84M843- 5602	<b>3.00</b>	-0.01	-0.14	<b>8.25</b>	-0.23	-0.66	<b>21.30</b>	0.41	0.36	21.32
8CZ7RM- 5605	<b>3.00</b>	-0.01	-0.14	<b>8.40</b>	-0.08	-0.23	<b>21.00</b>	0.11	0.10	20.92
8K79TD- 5602	<b>3.00</b>	-0.01	-0.14	<b>8.50</b>	0.02	0.06	<b>20.67</b>	-0.22	-0.19	20.67
8L72UR- 5601	<b>3.00</b>	-0.01	-0.14	<b>8.40</b>	-0.08	-0.23	<b>20.92</b>	0.03	0.03	20.92
8T6RWU- 5602	<b>2.95</b>	-0.06	-0.73	<b>8.77</b>	0.29	0.84	<b>19.65</b>	-1.24	-1.10	19.66

TABLE 1  
Stain C, continued

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
969HAL-5601	<b>3.15</b>	0.14	1.62	<b>8.96</b>	0.48	1.39	<b>21.00</b>	0.11	0.10	20.58
98ZCDH-5602	<b>3.00</b>	-0.01	-0.14	<b>8.80</b>	0.32	0.93	<b>19.90</b>	-0.99	-0.88	19.93
99BJAJ-5602	<b>3.25</b>	0.24	2.79	<b>8.60</b>	0.12	0.35	<b>22.20</b>	1.31	1.16	22.20
9EG3GN-5601	<b>2.97</b>	-0.04	-0.49	<b>8.19</b>	-0.29	-0.83	<b>21.30</b>	0.41	0.36	21.26
9N9JAY-5601	<b>3.07</b>	0.06	0.68	<b>8.68</b>	0.20	0.58	<b>21.00</b>	0.11	0.10	20.71
9ZG8JW-5602	<b>3.10</b>	0.09	1.03	<b>8.10</b>	-0.38	-1.09	<b>22.00</b>	1.11	0.99	22.50
9ZHYEJ-5602	<b>3.00</b>	-0.01	-0.14	<b>8.40</b>	-0.08	-0.23	<b>20.90</b>	0.01	0.01	20.92
A4DCDT-5601	<b>31.00</b>	27.99	327.68 X	<b>85.00</b>	76.52	220.90 X	<b>21.40</b>	0.51	0.45	21.39
A7692M-5601	<b>3.03</b>	0.02	0.21	<b>8.18</b>	-0.30	-0.86	<b>21.70</b>	0.81	0.72	21.74
AA4HA3-5601	<b>2.88</b>	-0.13	-1.55	<b>8.25</b>	-0.23	-0.66	<b>20.40</b>	-0.49	-0.43	20.43
ABF7MN-5602	<b>3.13</b>	0.12	1.38	<b>8.94</b>	0.46	1.33	<b>21.00</b>	0.11	0.10	20.49
ADP68W-5601	<b>3.00</b>	-0.01	-0.14	<b>8.75</b>	0.27	0.78	<b>20.05</b>	-0.84	-0.74	20.05
AEGC6E-5601	<b>3.00</b>	-0.01	-0.14	<b>8.00</b>	-0.48	-1.38	<b>22.00</b>	1.11	0.99	22.02
AHRMVN-5602	<b>3.00</b>	-0.01	-0.14	<b>9.00</b>	0.52	1.51	<b>19.00</b>	-1.89	-1.68	19.47
ANLHYG-5605	<b>2.90</b>	-0.11	-1.31	<b>8.70</b>	0.22	0.64	<b>19.50</b>	-1.39	-1.23	19.47
B2RNV2-5601	<b>3.20</b>	0.19	2.20	<b>8.30</b>	-0.18	-0.51	<b>22.70</b>	1.81	1.61	22.68
B3XA2D-5601	<b>3.00</b>	-0.01	-0.14	<b>8.25</b>	-0.23	-0.66	<b>21.00</b>	0.11	0.10	21.32
B9MWTD-5601	<b>3.00</b>	-0.01	-0.14	<b>7.30</b>	-1.18	-3.40 X	<b>24.26</b>	3.37	2.99	24.27
BC33R8-5605	<b>3.10</b>	0.09	1.03	<b>8.30</b>	-0.18	-0.51	<b>21.90</b>	1.01	0.90	21.93
BEAME9-5602	<b>3.00</b>	-0.01	-0.14	<b>9.00</b>	0.52	1.51	<b>19.47</b>	-1.42	-1.26	19.47
BGF839-5601	<b>3.00</b>	-0.01	-0.14	<b>8.80</b>	0.32	0.93	<b>19.90</b>	-0.99	-0.88	19.93
BHQZ2G-5601	<b>2.70</b>	-0.31	-3.65 X	<b>8.50</b>	0.02	0.06	<b>18.52</b>	-2.37	-2.10	18.52

TABLE 1  
Stain C, continued

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
C3D2LH-5601	2.95	-0.06	-0.73	8.67	0.19	0.55	20.00	-0.89	-0.79	19.89
C48MGU-5601	2.95	-0.06	-0.73	7.90	-0.58	-1.67	21.93	1.04	0.92	21.93
CJZART-5602	3.00	-0.01	-0.14	7.75	-0.73	-2.10	22.80	1.91	1.70	22.77
CPQQZC-5601	3.00	-0.01	-0.14	9.00	0.52	1.51	19.00	-1.89	-1.68	19.47
CVX4BH-5605	3.00	-0.01	-0.14	8.50	0.02	0.06	21.00	0.11	0.10	20.67
CXJRN3-5602	3.00	-0.01	-0.14	8.50	0.02	0.06	21.00	0.11	0.10	20.67
CYDHTW-5602	3.00	-0.01	-0.14	8.60	0.12	0.35	20.00	-0.89	-0.79	20.42
D3TGGB-5601	2.80	-0.21	-2.48	8.60	0.12	0.35	19.00	-1.89	-1.68	19.00
D4NXT8-5605	2.90	-0.11	-1.31	8.40	-0.08	-0.23	20.20	-0.69	-0.61	20.20
D7BU4J-5601	3.00	-0.01	-0.14	8.60	0.12	0.35	20.40	-0.49	-0.43	20.42
D7VB JL-5601	3.00	-0.01	-0.14	8.60	0.12	0.35	20.40	-0.49	-0.43	20.42
D9EPMM-5601	3.00	-0.01	-0.14	8.30	-0.18	-0.51	21.20	0.31	0.28	21.19
D9HW7H-5601	3.10	0.09	1.03	8.70	0.22	0.64	21.00	0.11	0.10	20.87
DPKWTC-5601	3.00	-0.01	-0.14	9.00	0.52	1.51	19.50	-1.39	-1.23	19.47
DUJWMF-5601	3.00	-0.01	-0.14	8.50	0.02	0.06	20.70	-0.19	-0.17	20.67
DW388C-5601	3.00	-0.01	-0.14	9.00	0.52	1.51	19.00	-1.89	-1.68	19.47
DZ4BWE-5601	3.20	0.19	2.20	8.30	-0.18	-0.51	22.70	1.81	1.61	22.68
E2B4BD-5601	3.00	-0.01	-0.14	8.30	-0.18	-0.51	21.20	0.31	0.28	21.19
E9DWK9-5605	3.04	0.03	0.33	8.90	0.42	1.22	19.97	-0.92	-0.82	19.97
ED9NWB-5602	3.00	-0.01	-0.14	8.50	0.02	0.06	20.66	-0.23	-0.20	20.67
EE3EYJ-5602	3.00	-0.01	-0.14	9.00	0.52	1.51	19.50	-1.39	-1.23	19.47
EPHG6H-5601	3.00	-0.01	-0.14	8.40	-0.08	-0.23	20.92	0.03	0.03	20.92

TABLE 1  
Stain C, continued

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
EV8YKE-5601	3.20	0.19	2.20	8.80	0.32	0.93	21.30	0.41	0.36	21.32
EXRQPP-5601	2.94	-0.07	-0.84	8.67	0.19	0.55	19.80	-1.09	-0.97	19.82
F7PUKE-5601	3.00	-0.01	-0.14	8.50	0.02	0.06	20.00	-0.89	-0.79	20.67
F9ARMB-5602	3.07	0.06	0.68	8.62	0.14	0.41	20.90	0.01	0.01	20.86
FCA3E6-5601	2.70	-0.31	-3.65 X	8.60	0.12	0.35	18.30	-2.59	-2.30	18.30
FK2H49-5602	2.92	-0.09	-1.08	8.77	0.29	0.84	19.45	-1.44	-1.28	19.45
FPHN34-5605	3.00	-0.01	-0.14	8.20	-0.28	-0.80	21.50	0.61	0.54	21.46
FTWK7K-5601	2.90	-0.11	-1.31	6.80	-1.68	-4.84 X	25.00	4.11	3.65 X	25.24 X
FUVJQD-5602	3.00	-0.01	-0.14	8.40	-0.08	-0.23	21.00	0.11	0.10	20.92
G48FXN-5601	3.00	-0.01	-0.14	9.00	0.52	1.51	0.33	-20.56	-18.24 X	19.47
G4UJV6-5605	3.00	-0.01	-0.14	8.00	-0.48	-1.38	22.00	1.11	0.99	22.02
GBUYNJ-5601	2.80	-0.21	-2.48	8.40	-0.08	-0.23	19.50	-1.39	-1.23	19.47
GCQCAQ-5601	3.00	-0.01	-0.14	8.50	0.02	0.06	20.70	-0.19	-0.17	20.67
GNJVQG-5602	3.11	0.10	1.15	8.16	-0.32	-0.92	22.00	1.11	0.99	22.40
GQPDND-5601	3.00	-0.01	-0.14	8.20	-0.28	-0.80	21.50	0.61	0.54	21.46
GTWRGC-5602	3.00	-0.01	-0.14	8.00	-0.48	-1.38	24.50	3.61	3.20 X	22.02
GVZR9W-5605	3.00	-0.01	-0.14	8.50	0.02	0.06	21.00	0.11	0.10	20.67
GWC7XR-5602	2.10	-0.91	-10.68 X	5.50	-2.98	-8.60 X	22.40	1.51	1.34	22.45
GWD49M-5601	2.94	-0.07	-0.84	8.37	-0.11	-0.31	20.56	-0.33	-0.29	20.56
H24XJT-5602	3.20	0.19	2.20	8.10	-0.38	-1.09	23.00	2.11	1.87	23.27
H8QM7N-5602	2.80	-0.21	-2.48	8.00	-0.48	-1.38	20.00	-0.89	-0.79	20.49
H9JG28-5602	3.00	-0.01	-0.14	8.80	0.32	0.93	19.90	-0.99	-0.88	19.93

TABLE 1  
Stain C, continued

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
HBMBG4-5601	3.00	-0.01	-0.14	8.70	0.22	0.64	20.00	-0.89	-0.79	20.17
HELRCQ-5602	3.00	-0.01	-0.14	9.25	0.77	2.23	19.00	-1.89	-1.68	18.92
HFZCJM-5602	3.00	-0.01	-0.14	7.60	-0.88	-2.54	23.50	2.61	2.32	23.25
HKT99D-5601	2.88	-0.13	-1.55	8.57	0.09	0.27	19.60	-1.29	-1.14	19.64
HTAP39-5601	3.20	0.19	2.20	9.00	0.52	1.51	21.00	0.11	0.10	20.83
JHLBDB-5602	3.04	0.03	0.33	7.91	-0.57	-1.64	22.60	1.71	1.52	22.60
K6BA96-5601	3.10	0.09	1.03	8.90	0.42	1.22	20.30	-0.59	-0.52	20.38
K78MTC-5601	2.80	-0.21	-2.48	8.40	-0.08	-0.23	19.47	-1.42	-1.26	19.47
KEJMJ8-5602	3.10	0.09	1.03	8.20	-0.28	-0.80	22.00	1.11	0.99	22.21
KF969L-5601	3.00	-0.01	-0.14	8.60	0.12	0.35	20.40	-0.49	-0.43	20.42
KHZYCH-5602	3.00	-0.01	-0.14	7.90	-0.58	-1.67	22.00	1.11	0.99	22.32
KPLWZ6-5605	3.20	0.19	2.20	8.60	0.12	0.35	21.80	0.91	0.81	21.84
KWLCPC-5602	2.88	-0.13	-1.55	8.58	0.10	0.29	20.00	-0.89	-0.79	19.61
KYMFFE-5601	2.98	-0.03	-0.37	8.67	0.19	0.55	20.10	-0.79	-0.70	20.10
LEVQKC-5602	3.00	-0.01	-0.14	8.40	-0.08	-0.23	20.90	0.01	0.01	20.92
LR9QJQ-5601	3.10	0.09	1.03	8.60	0.12	0.35	21.00	0.11	0.10	21.13
LTJNW9-5605	3.00	-0.01	-0.14	8.30	-0.18	-0.51	21.00	0.11	0.10	21.19
LWDWPG-5601	5.86	2.85	33.34 X	16.50	8.02	23.16 X	20.80	-0.09	-0.08	20.80
M3XCVZ-5602	3.20	0.19	2.20	8.50	0.02	0.06	21.94	1.05	0.93	22.12
MAH6DQ-5602	2.99	-0.02	-0.26	7.69	-0.79	-2.28	22.90	2.01	1.78	22.88
MDHGAQ-5601	3.34	0.33	3.84 X	8.30	-0.18	-0.51	23.70	2.81	2.49	23.73
MFN2WQ-5601	3.03	0.02	0.21	8.35	-0.13	-0.37	21.30	0.41	0.36	21.28

TABLE 1  
Stain C, continued

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
MHDA3L-5601	3.00	-0.01	-0.14	9.30	0.82	2.37	19.00	-1.89	-1.68	18.82
MM4RB6-5602	3.10	0.09	1.03	8.50	0.02	0.06	21.00	0.11	0.10	21.39
MPT2E6-5602	3.10	0.09	1.03	8.40	-0.08	-0.23	22.00	1.11	0.99	21.66
MWCE8C-5601	3.01	0.00	-0.02	8.60	0.12	0.35	20.50	-0.39	-0.35	20.49
N7YMK9-5602	3.00	-0.01	-0.14	8.00	-0.48	-1.38	22.00	1.11	0.99	22.02
NDEEWR-5601	3.00	-0.01	-0.14	8.50	0.02	0.06	21.00	0.11	0.10	20.67
NJYL96-5601	3.20	0.19	2.20	8.40	-0.08	-0.23	22.39	1.50	1.33	22.39
NKYEBJ-5602	3.00	-0.01	-0.14	8.50	0.02	0.06	20.70	-0.19	-0.17	20.67
NRCCY3-5601	3.00	-0.01	-0.14	8.60	0.12	0.35	20.40	-0.49	-0.43	20.42
NUF6T2-5601	3.00	-0.01	-0.14	8.50	0.02	0.06	20.70	-0.19	-0.17	20.67
NZCMD9-5602	2.90	-0.11	-1.31	8.30	-0.18	-0.51	20.30	-0.59	-0.52	20.45
P6ZPYJ-5601	3.10	0.09	1.03	8.60	0.12	0.35	21.10	0.21	0.19	21.13
PAR4ED-5601	3.00	-0.01	-0.14	8.60	0.12	0.35	20.40	-0.49	-0.43	20.42
PLJUVB-5605	3.00	-0.01	-0.14	8.30	-0.18	-0.51	21.20	0.31	0.28	21.19
PNCJHD-5601	2.90	-0.11	-1.31	8.30	-0.18	-0.51	20.00	-0.89	-0.79	20.45
Q3NEEK-5602	3.03	0.02	0.21	8.69	0.21	0.61	20.43	-0.46	-0.41	20.41
Q9C24Y-5601	3.00	-0.01	-0.14	7.70	-0.78	-2.25	22.90	2.01	1.78	22.93
QDP4RF-5601	3.00	-0.01	-0.14	9.00	0.52	1.51	0.33	-20.56	-18.25 X	19.47
QKMP3N-5602	3.00	-0.01	-0.14	8.25	-0.23	-0.66	21.00	0.11	0.10	21.32
QL6TH2-5605	3.00	-0.01	-0.14	8.50	0.02	0.06	20.70	-0.19	-0.17	20.67
QM9F4R-5601	3.00	-0.01	-0.14	8.00	-0.48	-1.38	22.02	1.13	1.00	22.02
QNK9ZF-5602	3.00	-0.01	-0.14	8.00	-0.48	-1.38	22.00	1.11	0.99	22.02



TABLE 1  
Stain C, continued

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
QXCL4L-5601	31.00	27.99	327.68 X	90.00	81.52	235.34 X	20.15	-0.74	-0.66	20.15
R7G336-5602	3.10	0.09	1.03	9.00	0.52	1.51	20.00	-0.89	-0.79	20.15
RLV2FJ-5602	3.10	0.09	1.03	8.30	-0.18	-0.51	21.90	1.01	0.90	21.93
RLV9D6-5602	3.00	-0.01	-0.14	8.00	-0.48	-1.38	22.02	1.13	1.00	22.02
RRHVBV-5602	3.00	-0.01	-0.14	8.60	0.12	0.35	20.00	-0.89	-0.79	20.42
RTWMY7-5601	3.00	-0.01	-0.14	8.40	-0.08	-0.23	20.92	0.03	0.03	20.92
RWUY2X-5602	3.10	0.09	1.03	8.90	0.42	1.22	20.00	-0.89	-0.79	20.38
T8R8D9-5601	2.98	-0.04	-0.42	9.04	0.56	1.62	19.22	-1.67	-1.48	19.22
T97LRA-5605	2.80	-0.21	-2.48	8.50	0.02	0.06	19.50	-1.39	-1.23	19.23
THRU76-5601	2.86	-0.15	-1.78	8.48	0.00	0.01	19.70	-1.19	-1.06	19.71
TUA8RF-5602	2.08	-0.93	-10.91 X	6.17	-2.31	-6.66 X	20.00	-0.89	-0.79	19.70
TVCCYA-5601	3.00	-0.01	-0.14	9.00	0.52	1.51	19.50	-1.39	-1.23	19.47
TWBBJ3-5602	3.00	-0.01	-0.14	8.30	-0.18	-0.51	21.00	0.11	0.10	21.19
TXMCYA-5601	3.10	0.09	1.03	8.70	0.22	0.64	21.00	0.11	0.10	20.87
U2Z8LY-5601	3.00	-0.01	-0.14	8.00	-0.48	-1.38	22.00	1.11	0.99	22.02
U7AMT2-5601	3.00	-0.01	-0.14	8.50	0.02	0.06	20.70	-0.19	-0.17	20.67
U8746Y-5602	0.77	-2.24	-26.25 X	2.05	-6.43	-18.56 X	22.10	1.21	1.07	22.06
UC2UBB-5602	3.00	-0.01	-0.14	8.70	0.22	0.64	20.17	-0.72	-0.64	20.17
V786K6-5605	3.00	-0.01	-0.14	8.60	0.12	0.35	20.40	-0.49	-0.43	20.42
VG9HQX-5601	3.00	-0.01	-0.14	8.30	-0.18	-0.51	21.20	0.31	0.28	21.19
VK9UKC-5602	2.90	-0.11	-1.31	8.10	-0.38	-1.09	21.00	0.11	0.10	20.98
VTKXM4-5605	2.90	-0.11	-1.31	7.80	-0.68	-1.96	22.00	1.11	0.99	21.83

TABLE 1  
Stain C, continued

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
VUGDY2-5602	3.15	0.14	1.62	8.96	0.48	1.39	21.00	0.11	0.10	20.58
W4KVXB-5602	3.00	-0.01	-0.14	8.40	-0.08	-0.23	21.00	0.11	0.10	20.92
WLYC24-5601	3.00	-0.01	-0.14	8.50	0.02	0.06	20.67	-0.22	-0.19	20.67
WNMXY-5601	3.15	0.14	1.62	8.96	0.48	1.39	21.00	0.11	0.10	20.58
WV8UTA-5601	2.86	-0.15	-1.78	7.82	-0.66	-1.90	21.00	0.11	0.10	21.45
WXDEGA-5601	3.00	-0.01	-0.14	8.50	0.02	0.06	21.00	0.11	0.10	20.67
WXF2Z9-5602	3.00	-0.01	-0.14	9.00	0.52	1.51	19.00	-1.89	-1.68	19.47
WYLQWQ-5601	3.14	0.13	1.50	7.74	-0.74	-2.13	24.50	3.61	3.20 X	23.93
X34794-5601	3.00	-0.01	-0.14	8.40	-0.08	-0.23	20.90	0.01	0.01	20.92
X6QRUY-5601	3.46	0.45	5.25 X	8.89	0.41	1.19	23.00	2.11	1.87	22.90
X8VHW9-5601	3.00	-0.01	-0.14	8.20	-0.28	-0.80	21.50	0.61	0.54	21.46
XA6FGG-5602	3.00	-0.01	-0.14	8.00	-0.48	-1.38	22.00	1.11	0.99	22.02
XD6QBV-5602	18.30	15.29	178.99 X	48.80	40.32	116.40 X	22.00	1.11	0.99	22.02
XDG9LN-5602	3.00	-0.01	-0.14	9.00	0.52	1.51	19.47	-1.42	-1.26	19.47
XEH2N3-5601	2.90	-0.11	-1.31	8.30	-0.18	-0.51	20.45	-0.44	-0.39	20.45
XJTBDC-5602	3.10	0.09	1.03	8.40	-0.08	-0.23	22.00	1.11	0.99	21.66
XUAW3E-5601	3.00	-0.01	-0.14	8.40	-0.08	-0.23	20.90	0.01	0.01	20.92
Y4WETR-5601	3.10	0.09	1.03	8.70	0.22	0.64	20.90	0.01	0.01	20.87
Y7H7Y3-5601	2.92	-0.09	-1.08	8.66	0.18	0.52	19.70	-1.19	-1.06	19.71
YC7TP3-5605	2.90	-0.11	-1.31	8.70	0.22	0.64	19.00	-1.89	-1.68	19.47
YGGWLW-5605	3.10	0.09	1.03	7.40	-1.08	-3.11 X	25.00	4.11	3.65 X	24.77 X
YGZK26-5602	2.90	-0.11	-1.31	8.34	-0.14	-0.40	20.30	-0.59	-0.52	20.35

TABLE 1  
Stain C, continued

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
YHTHCX-5602	3.10	0.09	1.03	8.70	0.22	0.64	21.00	0.11	0.10	20.87
YKYW2C-5602	3.00	-0.01	-0.14	8.40	-0.08	-0.23	20.92	0.03	0.03	20.92
YU3BJ4-5602	3.00	-0.01	-0.14	9.00	0.52	1.51	19.26	-1.63	-1.45	19.47
YVJF8U-5601	3.00	-0.01	-0.14	8.50	0.02	0.06	20.00	-0.89	-0.79	20.67
YVJHQ7-5601	3.02	0.01	0.09	8.48	0.00	0.01	20.90	0.01	0.01	20.86
YX4EBQ-5602	3.00	-0.01	-0.14	8.00	-0.48	-1.38	22.00	1.11	0.99	22.02
Z3EP67-5602	3.03	0.02	0.21	8.75	0.27	0.78	20.24	-0.65	-0.58	20.26
Z8U9BU-5602	3.00	-0.01	-0.14	7.00	-1.48	-4.27 X	25.40	4.51	4.00 X	25.38 X
ZACJUR-5601	3.10	0.09	1.03	8.60	0.12	0.35	21.40	0.51	0.45	21.13
ZGENT3-5601	3.00	-0.01	-0.14	8.80	0.32	0.93	19.93	-0.96	-0.85	19.93
ZPNZ2T-5601	3.10	0.09	1.03	8.20	-0.28	-0.80	22.20	1.31	1.16	22.21
ZTLJ4R-5601	3.17	0.16	1.85	8.81	0.33	0.96	21.00	0.11	0.10	21.09
Grand Mean	3.01			8.48			20.89			20.91
Standard Deviation	0.09			0.35			1.13			1.12
Participants Included in calculations	194			195			201			205
Participants excluded from calculations (indicated by X)	16			15			9			5

Stain C Preparation Angle: 20.2°

TABLE 1  
Stain D

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
28Z7RF- 5601	3.00	0.48	5.86 X	8.00	0.87	2.62	22.00	1.19	1.07	22.02
2E7TNP- 5601	2.40	-0.12	-1.45	6.80	-0.33	-1.00	20.60	-0.21	-0.19	20.67
2NQ3BX- 5601	2.50	-0.02	-0.23	7.00	-0.13	-0.39	20.92	0.11	0.10	20.92
2QDNXU- 5601	2.60	0.08	0.99	7.20	0.07	0.21	21.00	0.19	0.17	21.17
2Y64LX- 5602	2.40	-0.12	-1.45	6.00	-1.13	-3.41 X	23.00	2.19	1.97	23.58
2Z438R- 5601	2.50	-0.02	-0.23	7.00	-0.13	-0.39	20.90	0.09	0.08	20.92
32EBPQ- 5601	2.72	0.20	2.45	7.50	0.37	1.11	21.26	0.45	0.40	21.26
33RZUN- 5605	2.50	-0.02	-0.23	7.00	-0.13	-0.39	20.90	0.09	0.08	20.92
34MG98- 5601	2.60	0.08	0.99	7.50	0.37	1.11	20.00	-0.81	-0.73	20.28
36UZQF- 5601	2.55	0.03	0.38	7.50	0.37	1.11	19.87	-0.94	-0.85	19.88
36VTRU- 5601	2.45	-0.07	-0.84	6.96	-0.17	-0.52	20.60	-0.21	-0.19	20.61
3BFVRJ- 5601	2.57	0.05	0.62	7.40	0.27	0.81	20.30	-0.51	-0.46	20.32
3CCC72- 5602	2.40	-0.12	-1.45	6.40	-0.73	-2.20	22.02	1.21	1.09	22.02
3G9VC7- 5602	2.70	0.18	2.21	7.50	0.37	1.11	21.00	0.19	0.17	21.10
3P29AK- 5602	2.70	0.18	2.21	7.20	0.07	0.21	21.60	0.79	0.71	22.02
3PJFBV- 5601	2.50	-0.02	-0.23	7.00	-0.13	-0.39	20.90	0.09	0.08	20.92
3PYLQL- 5601	2.50	-0.02	-0.23	7.00	-0.13	-0.39	20.90	0.09	0.08	20.92
4BCV4N- 5605	2.40	-0.12	-1.45	6.50	-0.63	-1.90	21.70	0.89	0.80	21.67
4CTXY4- 5601	2.60	0.08	0.99	7.40	0.27	0.81	20.50	-0.31	-0.28	20.57
4F9KKV- 5602	2.50	-0.02	-0.23	7.12	-0.01	-0.03	20.60	-0.21	-0.19	20.56
4LUA8Q- 5605	2.60	0.08	0.99	7.40	0.27	0.81	20.60	-0.21	-0.19	20.57
4TUUAL- 5601	7.00	4.48	54.59 X	19.00	11.87	35.76 X	22.00	1.19	1.07	21.62

TABLE 1  
Stain D, continued

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
4ZH9L9-5602	2.60	0.08	0.99	7.00	-0.13	-0.39	22.00	1.19	1.07	21.80
694T3Q-5601	2.50	-0.02	-0.23	7.30	0.17	0.51	20.00	-0.81	-0.73	20.03
6G3D77-5601	2.50	-0.02	-0.23	7.50	0.37	1.11	19.50	-1.31	-1.18	19.47
6KF7BD-5601	3.00	0.48	5.86 X	8.00	0.87	2.62	22.00	1.19	1.07	22.02
6R2962-5602	2.90	0.38	4.64 X	7.00	-0.13	-0.39	25.00	4.19	3.76 X	24.47 X
6U4YKP-5601	10.50	7.98	97.24 X	31.00	23.87	71.92 X	19.70	-1.11	-1.00	19.80
72JCP7-5601	2.60	0.08	0.99	7.20	0.07	0.21	21.20	0.39	0.35	21.17
77WXVR-5602	2.54	0.02	0.26	6.58	-0.55	-1.66	23.00	2.19	1.97	22.71
794D3X-5602	2.50	-0.02	-0.23	7.00	-0.13	-0.39	20.90	0.09	0.08	20.92
7BP47N-5605	2.60	0.08	0.99	6.62	-0.51	-1.54	23.10	2.29	2.05	23.13
7CY9LX-5602	2.53	0.01	0.13	7.43	0.30	0.90	19.90	-0.91	-0.82	19.91
7ERZX4-5602	2.43	-0.09	-1.08	7.07	-0.06	-0.18	20.10	-0.71	-0.64	20.10
7JMR8L-5601	2.40	-0.12	-1.45	7.00	-0.13	-0.39	20.00	-0.81	-0.73	20.05
7JQ6ZN-5601	2.50	-0.02	-0.23	6.00	-1.13	-3.41 X	24.60	3.79	3.40 X	24.62 X
7L8JDW-5602	2.00	-0.52	-6.32 X	7.00	-0.13	-0.39	16.26	-4.55	-4.09 X	16.60 X
7W7JLU-5605	2.60	0.08	0.99	7.50	0.37	1.11	20.00	-0.81	-0.73	20.28
7WN88V-5601	2.50	-0.02	-0.23	6.70	-0.43	-1.30	21.90	1.09	0.98	21.91
84M843-5602	2.50	-0.02	-0.23	6.75	-0.38	-1.15	21.70	0.89	0.80	21.74
8CZ7RM-5605	2.20	-0.32	-3.89 X	7.10	-0.03	-0.09	18.00	-2.81	-2.52	18.05
8K79TD-5602	2.65	0.13	1.60	7.10	-0.03	-0.09	21.92	1.11	1.00	21.92
8L72UR-5601	2.40	-0.12	-1.45	7.10	-0.03	-0.09	19.75	-1.06	-0.95	19.76
8T6RWU-5602	2.48	-0.04	-0.47	7.02	-0.11	-0.33	20.68	-0.13	-0.12	20.69

TABLE 1  
Stain D, continued

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
969HAL-5601	2.90	0.38	4.64 X	7.54	0.41	1.23	22.00	1.19	1.07	22.62
98ZCDH-5602	2.50	-0.02	-0.23	7.60	0.47	1.41	19.20	-1.61	-1.45	19.20
99BJAJ-5602	2.80	0.28	3.42 X	7.30	0.17	0.51	21.70	0.89	0.80	22.55
9EG3GN-5601	2.53	0.01	0.13	6.80	-0.33	-1.00	21.80	0.99	0.89	21.84
9N9JAY-5601	2.56	0.04	0.50	7.46	0.33	0.99	20.00	-0.81	-0.73	20.07
9ZG8JW-5602	2.60	0.08	0.99	6.60	-0.53	-1.60	23.00	2.19	1.97	23.20
9ZHYEJ-5602	2.60	0.08	0.99	7.10	-0.03	-0.09	21.50	0.69	0.62	21.48
A4DCDT-5601	25.00	22.48	273.89 X	73.00	65.87	198.46 X	20.10	-0.71	-0.64	20.03
A7692M-5601	2.56	0.04	0.50	6.67	-0.46	-1.39	22.60	1.79	1.61	22.57
AA4HA3-5601	2.44	-0.08	-0.96	6.93	-0.20	-0.61	20.60	-0.21	-0.19	20.62
ABF7MN-5602	2.80	0.28	3.42 X	7.55	0.42	1.26	22.00	1.19	1.07	21.77
ADP68W-5601	2.50	-0.02	-0.23	6.50	-0.63	-1.90	22.62	1.81	1.62	22.62
AEGC6E-5601	2.50	-0.02	-0.23	6.80	-0.33	-1.00	21.60	0.79	0.71	21.57
AHRMVN-5602	2.00	-0.52	-6.32 X	7.00	-0.13	-0.39	17.00	-3.81	-3.42 X	16.60 X
ANLHYG-5605	2.60	0.08	0.99	7.40	0.27	0.81	20.60	-0.21	-0.19	20.57
B2RNV2-5601	2.50	-0.02	-0.23	7.10	-0.03	-0.09	20.60	-0.21	-0.19	20.62
B3XA2D-5601	2.50	-0.02	-0.23	7.00	-0.13	-0.39	21.00	0.19	0.17	20.92
B9MWTD-5601	2.60	0.08	0.99	6.30	-0.83	-2.50	24.37	3.56	3.20 X	24.37 X
BC33R8-5605	2.50	-0.02	-0.23	7.00	-0.13	-0.39	20.90	0.09	0.08	20.92
BEAME9-5602	2.40	-0.12	-1.45	7.50	0.37	1.11	18.66	-2.15	-1.93	18.66
BGF839-5601	2.50	-0.02	-0.23	7.50	0.37	1.11	19.50	-1.31	-1.18	19.47
BHQZ2G-5601	2.50	-0.02	-0.23	6.90	-0.23	-0.70	21.24	0.43	0.38	21.24

TABLE 1  
**Stain D, continued**

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
C3D2LH-5601	2.54	0.02	0.26	7.32	0.19	0.57	20.00	-0.81	-0.73	20.30
C48MGU-5601	2.40	-0.12	-1.45	6.90	-0.23	-0.70	20.35	-0.46	-0.41	20.35
CJZART-5602	2.50	-0.02	-0.23	6.25	-0.88	-2.65	23.60	2.79	2.50	23.58
CPQQZC-5601	2.50	-0.02	-0.23	7.70	0.57	1.71	19.00	-1.81	-1.63	18.95
CVX4BH-5605	2.50	-0.02	-0.23	7.00	-0.13	-0.39	21.00	0.19	0.17	20.92
CXJRN3-5602	2.50	-0.02	-0.23	7.00	-0.13	-0.39	21.00	0.19	0.17	20.92
CYDHTW-5602	2.40	-0.12	-1.45	7.20	0.07	0.21	19.50	-1.31	-1.18	19.47
D3TGGB-5601	2.40	-0.12	-1.45	7.60	0.47	1.41	18.41	-2.40	-2.16	18.41
D4NXT8-5605	2.50	-0.02	-0.23	6.80	-0.33	-1.00	21.60	0.79	0.71	21.57
D7BU4J-5601	2.50	-0.02	-0.23	7.30	0.17	0.51	20.00	-0.81	-0.73	20.03
D7VB JL-5601	2.60	0.08	0.99	7.00	-0.13	-0.39	21.80	0.99	0.89	21.80
D9EPMM-5601	2.50	-0.02	-0.23	7.20	0.07	0.21	20.30	-0.51	-0.46	20.32
D9HW7H-5601	2.60	0.08	0.99	7.20	0.07	0.21	21.00	0.19	0.17	21.17
DPKWTC-5601	2.50	-0.02	-0.23	7.50	0.37	1.11	19.50	-1.31	-1.18	19.47
DUJWMF-5601	2.50	-0.02	-0.23	8.00	0.87	2.62	18.20	-2.61	-2.34	18.21
DW388C-5601	2.60	0.08	0.99	7.60	0.47	1.41	20.00	-0.81	-0.73	20.01
DZ4BWE-5601	2.50	-0.02	-0.23	7.00	-0.13	-0.39	20.90	0.09	0.08	20.92
E2B4BD-5601	2.50	-0.02	-0.23	6.90	-0.23	-0.70	21.20	0.39	0.35	21.24
E9DWK9-5605	2.54	0.02	0.26	7.51	0.38	1.14	19.77	-1.04	-0.94	19.77
ED9NWB-5602	2.60	0.08	0.99	7.20	0.07	0.21	21.17	0.36	0.32	21.17
EE3EYJ-5602	2.50	-0.02	-0.23	7.50	0.37	1.11	19.50	-1.31	-1.18	19.47
EPHG6H-5601	2.40	-0.12	-1.45	7.00	-0.13	-0.39	20.05	-0.76	-0.68	20.05

TABLE 1  
Stain D, continued

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
EV8YKE-5601	2.60	0.08	0.99	7.50	0.37	1.11	20.30	-0.51	-0.46	20.28
EXRQPP-5601	2.42	-0.10	-1.21	7.38	0.25	0.75	19.10	-1.71	-1.54	19.14
F7PUKE-5601	2.50	-0.02	-0.23	7.00	-0.13	-0.39	20.00	-0.81	-0.73	20.92
F9ARMB-5602	2.56	0.04	0.50	7.20	0.07	0.21	20.80	-0.01	-0.01	20.83
FCA3E6-5601	2.40	-0.12	-1.45	7.20	0.07	0.21	19.50	-1.31	-1.18	19.47
FK2H49-5602	2.54	0.02	0.26	7.41	0.28	0.84	20.05	-0.76	-0.68	20.05
FPHN34-5605	2.60	0.08	0.99	7.00	-0.13	-0.39	21.80	0.99	0.89	21.80
FTWK7K-5601	2.40	-0.12	-1.45	6.60	-0.53	-1.60	21.00	0.19	0.17	21.32
FUVJQD-5602	2.60	0.08	0.99	7.20	0.07	0.21	21.00	0.19	0.17	21.17
G48FXN-5601	2.00	-0.52	-6.32 X	7.00	-0.13	-0.39	0.30	-20.51	-18.42 X	16.60 X
G4UJV6-5605	2.70	0.18	2.21	7.00	-0.13	-0.39	23.00	2.19	1.97	22.69
GBUYNJ-5601	2.40	-0.12	-1.45	7.00	-0.13	-0.39	20.10	-0.71	-0.64	20.05
GCQCAQ-5601	2.50	-0.02	-0.23	7.30	0.17	0.51	20.00	-0.81	-0.73	20.03
GNJVQG-5602	2.53	0.01	0.13	6.92	-0.21	-0.64	21.00	0.19	0.17	21.44
GQPDND-5601	2.50	-0.02	-0.23	7.00	-0.13	-0.39	20.90	0.09	0.08	20.92
GTWRGC-5602	2.50	-0.02	-0.23	7.00	-0.13	-0.39	23.50	2.69	2.41	20.92
GVZR9W-5605	2.80	0.28	3.42 X	7.00	-0.13	-0.39	24.00	3.19	2.86	23.58
GWC7XR-5602	1.80	-0.72	-8.76 X	4.80	-2.33	-7.02 X	22.00	1.19	1.07	22.02
GWD49M-5601	2.48	-0.04	-0.47	7.10	-0.03	-0.09	20.44	-0.37	-0.33	20.44
H24XJT-5602	2.40	-0.12	-1.45	7.00	-0.13	-0.39	20.00	-0.81	-0.73	20.05
H8QM7N-5602	2.40	-0.12	-1.45	6.80	-0.33	-1.00	21.00	0.19	0.17	20.67
H9JG28-5602	2.50	-0.02	-0.23	7.10	-0.03	-0.09	20.60	-0.21	-0.19	20.62



TABLE 1  
Stain D, continued

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
HBMBG4-5601	2.50	-0.02	-0.23	7.10	-0.03	-0.09	20.00	-0.81	-0.73	20.62
HELRCQ-5602	2.28	-0.24	-2.91	7.62	0.49	1.47	17.00	-3.81	-3.42 X	17.41 X
HFZCJM-5602	2.60	0.08	0.99	7.10	-0.03	-0.09	21.40	0.59	0.53	21.48
HKT99D-5601	2.49	-0.03	-0.35	7.15	0.02	0.06	20.40	-0.41	-0.37	20.38
HTAP39-5601	2.70	0.18	2.21	7.80	0.67	2.02	20.00	-0.81	-0.73	20.25
JHLBDB-5602	2.51	-0.01	-0.11	6.42	-0.71	-2.14	23.00	2.19	1.97	23.01
K6BA96-5601	2.60	0.08	0.99	7.40	0.27	0.81	20.50	-0.31	-0.28	20.57
K78MTC-5601	2.60	0.08	0.99	7.20	0.07	0.21	21.17	0.36	0.32	21.17
KEJMJ8-5602	2.60	0.08	0.99	7.00	-0.13	-0.39	21.00	0.19	0.17	21.80
KF969L-5601	2.50	-0.02	-0.23	7.00	-0.13	-0.39	20.90	0.09	0.08	20.92
KHZYCH-5602	2.50	-0.02	-0.23	7.00	-0.13	-0.39	21.00	0.19	0.17	20.92
KPLWZ6-5605	2.70	0.18	2.21	7.20	0.07	0.21	22.00	1.19	1.07	22.02
KWLCPC-5602	2.50	-0.02	-0.23	7.33	0.20	0.60	20.00	-0.81	-0.73	19.94
KYMFFE-5601	2.49	-0.03	-0.35	7.22	0.09	0.27	20.17	-0.64	-0.58	20.17
LEVQKC-5602	2.60	0.08	0.99	7.00	-0.13	-0.39	21.80	0.99	0.89	21.80
LR9QJQ-5601	2.50	-0.02	-0.23	7.10	-0.03	-0.09	21.00	0.19	0.17	20.62
LTJNW9-5605	2.40	-0.12	-1.45	6.70	-0.43	-1.30	21.00	0.19	0.17	20.99
LWDWPG-5601	5.01	2.49	30.35 X	15.07	7.94	23.92 X	19.66	-1.15	-1.03	19.42
M3XCVZ-5602	2.60	0.08	0.99	7.20	0.07	0.21	20.95	0.14	0.12	21.17
MAH6DQ-5602	2.51	-0.01	-0.11	6.42	-0.71	-2.14	23.00	2.19	1.97	23.01
MDHGAQ-5601	2.71	0.19	2.33	7.27	0.14	0.42	21.90	1.09	0.98	21.89
MFN2WQ-5601	2.56	0.04	0.50	6.92	-0.21	-0.64	21.70	0.89	0.80	21.71

TABLE 1  
Stain D, continued

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
MHDA3L-5601	2.40	-0.12	-1.45	7.50	0.37	1.11	19.00	-1.81	-1.63	18.66
MM4RB6-5602	2.50	-0.02	-0.23	7.20	0.07	0.21	19.00	-1.81	-1.63	20.32
MPT2E6-5602	2.60	0.08	0.99	7.00	-0.13	-0.39	22.00	1.19	1.07	21.80
MWCE8C-5601	2.59	0.07	0.87	7.22	0.09	0.27	21.00	0.19	0.17	21.02
N7YMK9-5602	2.40	-0.12	-1.45	6.40	-0.73	-2.20	22.00	1.19	1.07	22.02
NDEEWR-5601	2.50	-0.02	-0.23	7.50	0.37	1.11	19.00	-1.81	-1.63	19.47
NJYL96-5601	2.60	0.08	0.99	7.10	-0.03	-0.09	21.48	0.67	0.60	21.48
NKYEBJ-5602	2.30	-0.22	-2.67	7.00	-0.13	-0.39	19.20	-1.61	-1.45	19.18
NRCCY3-5601	2.50	-0.02	-0.23	7.20	0.07	0.21	20.30	-0.51	-0.46	20.32
NUF6T2-5601	2.50	-0.02	-0.23	7.00	-0.13	-0.39	20.90	0.09	0.08	20.92
NZCMD9-5602	2.50	-0.02	-0.23	7.30	0.17	0.51	19.90	-0.91	-0.82	20.03
P6ZPYJ-5601	2.70	0.18	2.21	7.20	0.07	0.21	22.00	1.19	1.07	22.02
PAR4ED-5601	2.60	0.08	0.99	7.00	-0.13	-0.39	21.80	0.99	0.89	21.80
PLJUVB-5605	2.50	-0.02	-0.23	7.10	-0.03	-0.09	20.60	-0.21	-0.19	20.62
PNCJHD-5601	2.40	-0.12	-1.45	7.00	-0.13	-0.39	20.00	-0.81	-0.73	20.05
Q3NEEK-5602	2.53	0.01	0.13	7.34	0.21	0.63	20.18	-0.63	-0.57	20.16
Q9C24Y-5601	2.50	-0.02	-0.23	6.30	-0.83	-2.50	23.40	2.59	2.32	23.38
QDP4RF-5601	2.00	-0.52	-6.32 X	7.00	-0.13	-0.39	0.33	-20.48	-18.39 X	16.60 X
QKMP3N-5602	2.50	-0.02	-0.23	7.00	-0.13	-0.39	21.00	0.19	0.17	20.92
QL6TH2-5605	2.50	-0.02	-0.23	7.50	0.37	1.11	19.50	-1.31	-1.18	19.47
QM9F4R-5601	2.40	-0.12	-1.45	6.50	-0.63	-1.90	21.67	0.86	0.77	21.67
QNK9ZF-5602	2.60	0.08	0.99	6.90	-0.23	-0.70	22.00	1.19	1.07	22.14

TABLE 1  
Stain D, continued

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
QXCL4L- 5601	<b>26.00</b>	23.48	286.08 X	<b>77.00</b>	69.87	210.51 X	<b>19.73</b>	-1.08	-0.97	19.73
R7G336- 5602	<b>2.70</b>	0.18	2.21	<b>7.60</b>	0.47	1.41	<b>21.00</b>	0.19	0.17	20.81
RLV2FJ- 5602	<b>2.70</b>	0.18	2.21	<b>7.20</b>	0.07	0.21	<b>22.00</b>	1.19	1.07	22.02
RLV9D6- 5602	<b>2.40</b>	-0.12	-1.45	<b>6.40</b>	-0.73	-2.20	<b>22.02</b>	1.21	1.09	22.02
RRHVBV- 5602	<b>2.40</b>	-0.12	-1.45	<b>7.30</b>	0.17	0.51	<b>19.00</b>	-1.81	-1.63	19.19
RTWMY7- 5601	<b>2.50</b>	-0.02	-0.23	<b>7.00</b>	-0.13	-0.39	<b>20.92</b>	0.11	0.10	20.92
RWUY2X- 5602	<b>2.60</b>	0.08	0.99	<b>7.60</b>	0.47	1.41	<b>20.00</b>	-0.81	-0.73	20.01
T8R8D9- 5601	<b>2.58</b>	0.06	0.70	<b>7.52</b>	0.39	1.16	<b>20.04</b>	-0.77	-0.69	20.04
T97LRA- 5605	<b>2.40</b>	-0.12	-1.45	<b>6.80</b>	-0.33	-1.00	<b>20.40</b>	-0.41	-0.37	20.67
THRU76- 5601	<b>2.53</b>	0.01	0.13	<b>7.08</b>	-0.05	-0.15	<b>20.90</b>	0.09	0.08	20.94
TUA8RF- 5602	<b>1.75</b>	-0.77	-9.37 X	<b>5.17</b>	-1.96	-5.91 X	<b>20.00</b>	-0.81	-0.73	19.78
TVCCYA- 5601	<b>2.50</b>	-0.02	-0.23	<b>7.00</b>	-0.13	-0.39	<b>20.90</b>	0.09	0.08	20.92
TWBBJ3- 5602	<b>2.50</b>	-0.02	-0.23	<b>7.00</b>	-0.13	-0.39	<b>21.00</b>	0.19	0.17	20.92
TXMCYA- 5601	<b>2.60</b>	0.08	0.99	<b>7.20</b>	0.07	0.21	<b>21.00</b>	0.19	0.17	21.17
U2Z8LY- 5601	<b>2.50</b>	-0.02	-0.23	<b>7.50</b>	0.37	1.11	<b>19.50</b>	-1.31	-1.18	19.47
U7AMT2- 5601	<b>2.50</b>	-0.02	-0.23	<b>7.10</b>	-0.03	-0.09	<b>20.60</b>	-0.21	-0.19	20.62
U8746Y- 5602	<b>0.68</b>	-1.84	-22.40 X	<b>1.82</b>	-5.31	-16.00 X	<b>21.90</b>	1.09	0.98	21.94
UC2UBB- 5602	<b>2.50</b>	-0.02	-0.23	<b>7.40</b>	0.27	0.81	<b>19.75</b>	-1.06	-0.95	19.75
V786K6- 5605	<b>2.50</b>	-0.02	-0.23	<b>7.20</b>	0.07	0.21	<b>20.30</b>	-0.51	-0.46	20.32
VG9HQX- 5601	<b>2.60</b>	0.08	0.99	<b>7.00</b>	-0.13	-0.39	<b>21.80</b>	0.99	0.89	21.80
VK9UKC- 5602	<b>2.50</b>	-0.02	-0.23	<b>7.30</b>	0.17	0.51	<b>20.00</b>	-0.81	-0.73	20.03
VTKXM4- 5605	<b>2.50</b>	-0.02	-0.23	<b>6.50</b>	-0.63	-1.90	<b>23.00</b>	2.19	1.97	22.62

TABLE 1  
Stain D, continued

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
VUGDY2-5602	2.90	0.38	4.64 X	7.54	0.41	1.23	22.00	1.19	1.07	22.62
W4KVXB-5602	2.50	-0.02	-0.23	7.10	-0.03	-0.09	21.00	0.19	0.17	20.62
WLYC24-5601	2.50	-0.02	-0.23	7.00	-0.13	-0.39	20.92	0.11	0.10	20.92
WNMXMY-5601	2.90	0.38	4.64 X	7.54	0.41	1.23	22.00	1.19	1.07	22.62
WV8UTA-5601	2.36	-0.16	-1.94	6.21	-0.92	-2.77	22.00	1.19	1.07	22.34
WXDEGA-5601	2.50	-0.02	-0.23	7.50	0.37	1.11	19.00	-1.81	-1.63	19.47
WXF2Z9-5602	2.40	-0.12	-1.45	7.40	0.27	0.81	18.00	-2.81	-2.52	18.92
WYLQWQ-5601	2.54	0.02	0.26	6.59	-0.54	-1.63	23.00	2.19	1.97	22.67
X34794-5601	2.50	-0.02	-0.23	7.00	-0.13	-0.39	20.90	0.09	0.08	20.92
X6QRUY-5601	3.19	0.67	8.18 X	7.55	0.42	1.26	25.00	4.19	3.76 X	24.99 X
X8VHW9-5601	2.40	-0.12	-1.45	6.80	-0.33	-1.00	20.70	-0.11	-0.10	20.67
XA6FGG-5602	2.40	-0.12	-1.45	7.00	-0.13	-0.39	20.10	-0.71	-0.64	20.05
XD6QBV-5602	14.50	11.98	145.97 X	39.10	31.97	96.32 X	21.80	0.99	0.89	21.77
XDG9LN-5602	2.50	-0.02	-0.23	7.50	0.37	1.11	19.47	-1.34	-1.20	19.47
XEH2N3-5601	2.50	-0.02	-0.23	7.00	-0.13	-0.39	20.92	0.11	0.10	20.92
XJTBDC-5602	2.70	0.18	2.21	7.20	0.07	0.21	22.00	1.19	1.07	22.02
XUAW3E-5601	2.60	0.08	0.99	7.00	-0.13	-0.39	21.80	0.99	0.89	21.80
Y4WETR-5601	2.60	0.08	0.99	7.50	0.37	1.11	20.30	-0.51	-0.46	20.28
Y7H7Y3-5601	2.45	-0.07	-0.84	7.38	0.25	0.75	19.40	-1.41	-1.27	19.39
YC7TP3-5605	2.50	-0.02	-0.23	7.40	0.27	0.81	20.00	-0.81	-0.73	19.75
YGGWLW-5605	2.50	-0.02	-0.23	7.60	0.47	1.41	19.00	-1.81	-1.63	19.20
YGZK26-5602	2.60	0.08	0.99	7.70	0.57	1.71	19.70	-1.11	-1.00	19.73

TABLE 1  
**Stain D, continued**

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
YHTHCX-5602	2.60	0.08	0.99	7.20	0.07	0.21	21.00	0.19	0.17	21.17
YKYW2C-5602	2.50	-0.02	-0.23	7.10	-0.03	-0.09	20.61	-0.20	-0.18	20.62
YU3BJ4-5602	2.00	-0.52	-6.32 X	7.00	-0.13	-0.39	16.26	-4.55	-4.09 X	16.60 X
YVJF8U-5601	2.50	-0.02	-0.23	7.10	-0.03	-0.09	20.00	-0.81	-0.73	20.62
YVJHQ7-5601	2.54	0.02	0.26	7.27	0.14	0.42	20.50	-0.31	-0.28	20.45
YX4EBQ-5602	2.50	-0.02	-0.23	7.00	-0.13	-0.39	21.00	0.19	0.17	20.92
Z3EP67-5602	2.51	-0.01	-0.11	7.34	0.21	0.63	19.93	-0.88	-0.79	20.00
Z8U9BU-5602	2.50	-0.02	-0.23	6.00	-1.13	-3.41 X	24.60	3.79	3.40 X	24.62 X
ZACJUR-5601	2.50	-0.02	-0.23	7.20	0.07	0.21	20.30	-0.51	-0.46	20.32
ZGENT3-5601	2.60	0.08	0.99	7.60	0.47	1.41	20.00	-0.81	-0.73	20.01
ZPNZ2T-5601	2.50	-0.02	-0.23	6.90	-0.23	-0.70	21.20	0.39	0.35	21.24
ZTLJ4R-5601	2.61	0.09	1.11	7.32	0.19	0.57	21.00	0.19	0.17	20.89
Grand Mean	2.52			7.13			20.81			20.85
Standard Deviation	0.08			0.33			1.11			1.08
Participants Included in calculations	185			198			199			199
Participants excluded from calculations (indicated by X)	25			12			11			11

Stain D Preparation Angle: 21.9°

TABLE 1  
Stain E

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
28Z7RF- 5601	2.00	-0.03	-0.45	8.00	0.75	2.23	14.00	-2.28	-2.33	14.48
2E7TNP- 5601	2.10	0.07	1.15	7.00	-0.25	-0.74	17.40	1.12	1.14	17.46
2NQ3BX- 5601	2.10	0.07	1.15	6.90	-0.35	-1.04	17.72	1.44	1.46	17.72
2QDNXU- 5601	2.00	-0.03	-0.45	7.40	0.15	0.45	16.00	-0.28	-0.29	15.68
2Y64LX- 5602	2.00	-0.03	-0.45	6.00	-1.25	-3.72 X	19.00	2.72	2.77	19.47 X
2Z438R- 5601	1.80	-0.23	-3.66 X	6.80	-0.45	-1.34	15.30	-0.98	-1.00	15.35
32EBPQ- 5601	2.20	0.17	2.76	7.73	0.48	1.43	16.54	0.26	0.26	16.54
33RZUN- 5605	2.00	-0.03	-0.45	7.50	0.25	0.74	15.50	-0.78	-0.80	15.47
34MG98- 5601	2.10	0.07	1.15	7.30	0.05	0.15	17.00	0.72	0.73	16.72
36UZQF- 5601	2.00	-0.03	-0.45	7.55	0.30	0.89	15.36	-0.92	-0.94	15.36
36VTRU- 5601	1.91	-0.12	-1.89	6.98	-0.27	-0.80	15.90	-0.38	-0.39	15.88
3BFVRJ- 5601	2.10	0.07	1.15	7.52	0.27	0.80	16.20	-0.08	-0.09	16.22
3CCC72- 5602	2.00	-0.03	-0.45	6.80	-0.45	-1.34	17.10	0.82	0.83	17.10
3G9VC7- 5602	2.20	0.17	2.76	8.30	1.05	3.12 X	15.00	-1.28	-1.31	15.37
3P29AK- 5602	2.10	0.07	1.15	7.30	0.05	0.15	16.60	0.32	0.32	16.72
3PJFBV- 5601	2.00	-0.03	-0.45	7.20	-0.05	-0.15	16.10	-0.18	-0.19	16.13
3PYLQL- 5601	2.00	-0.03	-0.45	7.20	-0.05	-0.15	16.10	-0.18	-0.19	16.13
4BCV4N- 5605	1.90	-0.13	-2.06	6.70	-0.55	-1.64	16.50	0.22	0.22	16.47
4CTXY4- 5601	2.00	-0.03	-0.45	7.40	0.15	0.45	15.50	-0.78	-0.80	15.68
4F9KKV- 5602	2.00	-0.03	-0.45	7.10	-0.15	-0.45	16.40	0.12	0.12	16.36
4LUA8Q- 5605	2.00	-0.03	-0.45	7.50	0.25	0.74	15.50	-0.78	-0.80	15.47
4TUUAL- 5601	6.00	3.97	63.74 X	22.00	14.75	43.89 X	16.00	-0.28	-0.29	15.83

TABLE 1  
Stain E, continued

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
4ZH9L9-5602	2.00	-0.03	-0.45	6.60	-0.65	-1.93	18.00	1.72	1.75	17.64
694T3Q-5601	2.00	-0.03	-0.45	7.30	0.05	0.15	16.00	-0.28	-0.29	15.90
6G3D77-5601	2.00	-0.03	-0.45	7.50	0.25	0.74	15.50	-0.78	-0.80	15.47
6KF7BD-5601	3.00	0.97	15.60 X	8.50	1.25	3.72 X	21.00	4.72	4.81 X	20.67 X
6R2962-5602	2.10	0.07	1.15	7.00	-0.25	-0.74	18.00	1.72	1.75	17.46
6U4YKP-5601	9.00	6.97	111.88 X	34.00	26.75	79.59 X	15.30	-0.98	-1.00	15.35
72JCP7-5601	2.00	-0.03	-0.45	7.60	0.35	1.04	15.30	-0.98	-1.00	15.26
77WXVR-5602	2.07	0.04	0.67	6.64	-0.61	-1.82	18.00	1.72	1.75	18.16
794D3X-5602	2.00	-0.03	-0.45	7.00	-0.25	-0.74	16.60	0.32	0.32	16.60
7BP47N-5605	2.11	0.08	1.31	7.07	-0.18	-0.54	17.30	1.02	1.04	17.36
7CY9LX-5602	2.06	0.03	0.51	7.37	0.12	0.36	16.20	-0.08	-0.09	16.23
7ERZX4-5602	2.05	0.02	0.35	7.07	-0.18	-0.54	16.90	0.62	0.63	16.86
7JMR8L-5601	2.00	-0.03	-0.45	6.80	-0.45	-1.34	17.10	0.82	0.83	17.10
7JQ6ZN-5601	2.00	-0.03	-0.45	6.00	-1.25	-3.72 X	19.50	3.22	3.28 X	19.47 X
7L8JDW-5602	2.00	-0.03	-0.45	8.00	0.75	2.23	14.47	-1.81	-1.85	14.48
7W7JLU-5605	2.00	-0.03	-0.45	7.50	0.25	0.74	15.00	-1.28	-1.31	15.47
7WN88V-5601	2.00	-0.03	-0.45	7.00	-0.25	-0.74	16.60	0.32	0.32	16.60
84M843-5602	2.00	-0.03	-0.45	7.00	-0.25	-0.74	16.60	0.32	0.32	16.60
8CZ7RM-5605	2.00	-0.03	-0.45	7.20	-0.05	-0.15	16.00	-0.28	-0.29	16.13
8K79TD-5602	2.00	-0.03	-0.45	7.60	0.35	1.04	15.26	-1.02	-1.04	15.26
8L72UR-5601	2.10	0.07	1.15	7.20	-0.05	-0.15	16.95	0.67	0.68	16.96
8T6RWU-5602	2.02	-0.01	-0.13	7.30	0.05	0.15	16.06	-0.22	-0.23	16.06

TABLE 1  
Stain E, continued

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
969HAL-5601	<b>2.57</b>	0.54	8.70 X	<b>7.48</b>	0.23	0.68	<b>20.00</b>	3.72	3.79 X	20.10 X
98ZCDH-5602	<b>2.00</b>	-0.03	-0.45	<b>7.50</b>	0.25	0.74	<b>15.50</b>	-0.78	-0.80	15.47
99BJAJ-5602	<b>2.20</b>	0.17	2.76	<b>7.10</b>	-0.15	-0.45	<b>18.04</b>	1.76	1.79	18.05
9EG3GN-5601	<b>1.99</b>	-0.04	-0.61	<b>7.02</b>	-0.23	-0.68	<b>16.50</b>	0.22	0.22	16.47
9N9JAY-5601	<b>1.96</b>	-0.07	-1.09	<b>7.51</b>	0.26	0.77	<b>15.00</b>	-1.28	-1.31	15.13
9ZG8JW-5602	<b>2.10</b>	0.07	1.15	<b>6.80</b>	-0.45	-1.34	<b>18.00</b>	1.72	1.75	17.99
9ZHYEJ-5602	<b>2.00</b>	-0.03	-0.45	<b>7.20</b>	-0.05	-0.15	<b>16.10</b>	-0.18	-0.19	16.13
A4DCDT-5601	<b>21.00</b>	18.97	304.44 X	<b>73.00</b>	65.75	195.63 X	<b>16.70</b>	0.42	0.42	16.72
A7692M-5601	<b>2.05</b>	0.02	0.35	<b>6.93</b>	-0.32	-0.95	<b>17.20</b>	0.92	0.93	17.21
AA4HA3-5601	<b>2.00</b>	-0.03	-0.45	<b>7.06</b>	-0.19	-0.57	<b>16.50</b>	0.22	0.22	16.46
ABF7MN-5602	<b>2.56</b>	0.53	8.54 X	<b>7.46</b>	0.21	0.62	<b>20.00</b>	3.72	3.79 X	20.07 X
ADP68W-5601	<b>2.00</b>	-0.03	-0.45	<b>7.50</b>	0.25	0.74	<b>15.47</b>	-0.81	-0.83	15.47
AEGC6E-5601	<b>2.00</b>	-0.03	-0.45	<b>6.90</b>	-0.35	-1.04	<b>16.80</b>	0.52	0.53	16.85
AHRMVN-5602	<b>2.00</b>	-0.03	-0.45	<b>8.00</b>	0.75	2.23	<b>14.00</b>	-2.28	-2.33	14.48
ANLHYG-5605	<b>2.00</b>	-0.03	-0.45	<b>7.60</b>	0.35	1.04	<b>15.30</b>	-0.98	-1.00	15.26
B2RNV2-5601	<b>2.00</b>	-0.03	-0.45	<b>7.00</b>	-0.25	-0.74	<b>16.60</b>	0.32	0.32	16.60
B3XA2D-5601	<b>1.75</b>	-0.28	-4.46 X	<b>7.00</b>	-0.25	-0.74	<b>14.00</b>	-2.28	-2.33	14.48
B9MWTD-5601	<b>2.00</b>	-0.03	-0.45	<b>6.60</b>	-0.65	-1.93	<b>17.63</b>	1.35	1.37	17.64
BC33R8-5605	<b>2.10</b>	0.07	1.15	<b>6.80</b>	-0.45	-1.34	<b>17.90</b>	1.62	1.65	17.99
BEAME9-5602	<b>2.00</b>	-0.03	-0.45	<b>7.50</b>	0.25	0.74	<b>15.46</b>	-0.82	-0.84	15.47
BGF839-5601	<b>2.00</b>	-0.03	-0.45	<b>7.40</b>	0.15	0.45	<b>15.70</b>	-0.58	-0.60	15.68
BHQZ2G-5601	<b>1.90</b>	-0.13	-2.06	<b>7.00</b>	-0.25	-0.74	<b>15.75</b>	-0.53	-0.54	15.75



TABLE 1  
Stain E, continued

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
C3D2LH-5601	2.02	-0.01	-0.13	7.27	0.02	0.06	16.00	-0.28	-0.29	16.13
C48MGU-5601	1.87	-0.16	-2.54	6.95	-0.30	-0.89	15.61	-0.67	-0.69	15.61
CJZART-5602	2.00	-0.03	-0.45	7.00	-0.25	-0.74	16.60	0.32	0.32	16.60
CPQQZC-5601	2.00	-0.03	-0.45	7.50	0.25	0.74	15.00	-1.28	-1.31	15.47
CVX4BH-5605	2.00	-0.03	-0.45	7.00	-0.25	-0.74	17.00	0.72	0.73	16.60
CXJRN3-5602	2.00	-0.03	-0.45	7.00	-0.25	-0.74	17.00	0.72	0.73	16.60
CYDHTW-5602	2.00	-0.03	-0.45	7.20	-0.05	-0.15	16.00	-0.28	-0.29	16.13
D3TGGB-5601	1.80	-0.23	-3.66 X	7.20	-0.05	-0.15	14.47	-1.81	-1.85	14.48
D4NXT8-5605	2.00	-0.03	-0.45	7.30	0.05	0.15	15.90	-0.38	-0.39	15.90
D7BU4J-5601	2.10	0.07	1.15	7.20	-0.05	-0.15	17.00	0.72	0.73	16.96
D7VB JL-5601	2.00	-0.03	-0.45	7.40	0.15	0.45	15.70	-0.58	-0.60	15.68
D9EPMM-5601	2.10	0.07	1.15	7.20	-0.05	-0.15	17.00	0.72	0.73	16.96
D9HW7H-5601	2.00	-0.03	-0.45	7.30	0.05	0.15	16.00	-0.28	-0.29	15.90
DPKWTC-5601	2.00	-0.03	-0.45	7.60	0.35	1.04	15.30	-0.98	-1.00	15.26
DUJWMF-5601	2.00	-0.03	-0.45	6.50	-0.75	-2.23	17.90	1.62	1.65	17.92
DW388C-5601	2.00	-0.03	-0.45	7.40	0.15	0.45	16.00	-0.28	-0.29	15.68
DZ4BWE-5601	2.00	-0.03	-0.45	7.20	-0.05	-0.15	16.10	-0.18	-0.19	16.13
E2B4BD-5601	2.00	-0.03	-0.45	6.80	-0.45	-1.34	17.10	0.82	0.83	17.10
E9DWK9-5605	2.03	0.00	0.03	7.67	0.42	1.25	15.34	-0.94	-0.96	15.35
ED9NWB-5602	2.10	0.07	1.15	7.50	0.25	0.74	16.26	-0.02	-0.02	16.26
EE3EYJ-5602	2.00	-0.03	-0.45	8.00	0.75	2.23	14.50	-1.78	-1.82	14.48
EPHG6H-5601	1.90	-0.13	-2.06	6.90	-0.35	-1.04	15.98	-0.30	-0.31	15.98

TABLE 1  
Stain E, continued

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
EV8YKE-5601	2.10	0.07	1.15	7.70	0.45	1.34	15.80	-0.48	-0.49	15.83
EXRQPP-5601	2.01	-0.02	-0.29	7.28	0.03	0.09	16.03	-0.25	-0.26	16.03
F7PUKE-5601	2.00	-0.03	-0.45	7.00	-0.25	-0.74	16.00	-0.28	-0.29	16.60
F9ARMB-5602	2.05	0.02	0.35	7.53	0.28	0.83	15.80	-0.48	-0.49	15.80
FCA3E6-5601	1.80	-0.23	-3.66 X	7.50	0.25	0.74	13.90	-2.38	-2.43	13.89
FK2H49-5602	2.04	0.01	0.19	7.72	0.47	1.40	15.32	-0.96	-0.98	15.32
FPHN34-5605	2.00	-0.03	-0.45	7.00	-0.25	-0.74	16.60	0.32	0.32	16.60
FTWK7K-5601	2.10	0.07	1.15	7.20	-0.05	-0.15	17.00	0.72	0.73	16.96
FUVJQD-5602	2.10	0.07	1.15	7.20	-0.05	-0.15	17.00	0.72	0.73	16.96
G48FXN-5601	2.00	-0.03	-0.45	7.00	-0.25	-0.74	0.30	-15.98	-16.30 X	16.60
G4UJV6-5605	2.10	0.07	1.15	7.00	-0.25	-0.74	17.00	0.72	0.73	17.46
GBUYNJ-5601	2.00	-0.03	-0.45	7.00	-0.25	-0.74	16.60	0.32	0.32	16.60
GCQCAQ-5601	2.00	-0.03	-0.45	7.50	0.25	0.74	15.50	-0.78	-0.80	15.47
GNJVQG-5602	2.17	0.14	2.28	7.35	0.10	0.30	17.00	0.72	0.73	17.17
GQPDND-5601	2.00	-0.03	-0.45	7.10	-0.15	-0.45	16.40	0.12	0.12	16.36
GTWRGC-5602	2.00	-0.03	-0.45	7.00	-0.25	-0.74	18.50	2.22	2.26	16.60
GVZR9W-5605	2.00	-0.03	-0.45	7.00	-0.25	-0.74	17.00	0.72	0.73	16.60
GWC7XR-5602	1.50	-0.53	-8.47 X	5.00	-2.25	-6.70 X	17.50	1.22	1.24	17.46
GWD49M-5601	2.00	-0.03	-0.45	7.14	-0.11	-0.33	16.27	-0.01	-0.01	16.27
H24XJT-5602	2.00	-0.03	-0.45	6.90	-0.35	-1.04	17.00	0.72	0.73	16.85
H8QM7N-5602	1.80	-0.23	-3.66 X	7.00	-0.25	-0.74	15.00	-1.28	-1.31	14.90
H9JG28-5602	2.00	-0.03	-0.45	7.30	0.05	0.15	15.90	-0.38	-0.39	15.90

TABLE 1  
Stain E, continued

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
HBMBG4-5601	2.10	0.07	1.15	7.40	0.15	0.45	16.00	-0.28	-0.29	16.49
HELRQC-5602	1.99	-0.04	-0.61	7.84	0.59	1.75	15.00	-1.28	-1.31	14.70
HFZCJM-5602	2.10	0.07	1.15	7.50	0.25	0.74	16.10	-0.18	-0.19	16.26
HKT99D-5601	2.05	0.02	0.35	7.57	0.32	0.95	15.70	-0.58	-0.60	15.71
HTAP39-5601	2.20	0.17	2.76	7.80	0.55	1.64	16.00	-0.28	-0.29	16.38
JHLBDB-5602	2.05	0.02	0.35	7.00	-0.25	-0.74	17.00	0.72	0.73	17.03
K6BA96-5601	2.10	0.07	1.15	7.50	0.25	0.74	16.20	-0.08	-0.09	16.26
K78MTC-5601	2.00	-0.03	-0.45	7.40	0.15	0.45	15.68	-0.60	-0.62	15.68
KEJMJ8-5602	2.00	-0.03	-0.45	7.10	-0.15	-0.45	16.00	-0.28	-0.29	16.36
KF969L-5601	2.00	-0.03	-0.45	6.70	-0.55	-1.64	17.60	1.32	1.34	17.37
KHZYCH-5602	2.00	-0.03	-0.45	7.10	-0.15	-0.45	17.00	0.72	0.73	16.36
KPLWZ6-5605	2.20	0.17	2.76	7.00	-0.25	-0.74	18.30	2.02	2.06	18.32
KWLCPC-5602	2.01	-0.02	-0.29	7.50	0.25	0.74	16.00	-0.28	-0.29	15.55
KYMFFE-5601	2.02	-0.01	-0.13	7.44	0.19	0.56	15.75	-0.53	-0.54	15.75
LEVQKC-5602	2.10	0.07	1.15	7.10	-0.15	-0.45	17.20	0.92	0.93	17.20
LR9QJQ-5601	2.00	-0.03	-0.45	7.50	0.25	0.74	15.00	-1.28	-1.31	15.47
LTJNW9-5605	1.90	-0.13	-2.06	6.80	-0.45	-1.34	16.00	-0.28	-0.29	16.23
LWDWPG-5601	4.21	2.18	35.01 X	14.99	7.74	23.03 X	16.31	0.03	0.03	16.31
M3XCVZ-5602	2.10	0.07	1.15	7.50	0.25	0.74	16.58	0.30	0.30	16.26
MAH6DQ-5602	2.03	0.00	0.03	6.75	-0.50	-1.49	17.50	1.22	1.24	17.50
MDHGAQ-5601	2.27	0.24	3.88 X	7.29	0.04	0.12	18.10	1.82	1.85	18.14
MFN2WQ-5601	2.01	-0.02	-0.29	7.10	-0.15	-0.45	16.40	0.12	0.12	16.45

TABLE 1  
Stain E, continued

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
MHDA3L-5601	1.90	-0.13	-2.06	7.40	0.15	0.45	15.00	-1.28	-1.31	14.88
MM4RB6-5602	2.10	0.07	1.15	7.60	0.35	1.04	16.00	-0.28	-0.29	16.04
MPT2E6-5602	2.10	0.07	1.15	7.30	0.05	0.15	17.00	0.72	0.73	16.72
MWCE8C-5601	2.10	0.07	1.15	7.44	0.19	0.56	16.40	0.12	0.12	16.40
N7YMK9-5602	2.00	-0.03	-0.45	6.80	-0.45	-1.34	17.00	0.72	0.73	17.10
NDEEWR-5601	2.00	-0.03	-0.45	7.50	0.25	0.74	15.00	-1.28	-1.31	15.47
NJYL96-5601	2.00	-0.03	-0.45	6.50	-0.75	-2.23	17.92	1.64	1.67	17.92
NKYEBJ-5602	1.80	-0.23	-3.66 X	7.30	0.05	0.15	14.30	-1.98	-2.02	14.27
NRCCY3-5601	2.00	-0.03	-0.45	7.00	-0.25	-0.74	16.60	0.32	0.32	16.60
NUF6T2-5601	2.00	-0.03	-0.45	7.20	-0.05	-0.15	16.10	-0.18	-0.19	16.13
NZCMD9-5602	2.10	0.07	1.15	7.50	0.25	0.74	16.00	-0.28	-0.29	16.26
P6ZPYJ-5601	2.10	0.07	1.15	7.80	0.55	1.64	15.60	-0.68	-0.70	15.62
PAR4ED-5601	2.10	0.07	1.15	6.80	-0.45	-1.34	18.00	1.72	1.75	17.99
PLJUVB-5605	2.00	-0.03	-0.45	6.90	-0.35	-1.04	16.90	0.62	0.63	16.85
PNCJHD-5601	2.00	-0.03	-0.45	7.40	0.15	0.45	15.00	-1.28	-1.31	15.68
Q3NEEK-5602	2.03	0.00	0.03	7.32	0.07	0.21	16.08	-0.20	-0.21	16.10
Q9C24Y-5601	2.10	0.07	1.15	6.50	-0.75	-2.23	18.80	2.52	2.57	18.85
QDP4RF-5601	2.00	-0.03	-0.45	9.00	1.75	5.21 X	0.22	-16.06	-16.38 X	12.84 X
QKMP3N-5602	2.00	-0.03	-0.45	7.00	-0.25	-0.74	17.00	0.72	0.73	16.60
QL6TH2-5605	2.25	0.22	3.56 X	7.00	-0.25	-0.74	18.70	2.42	2.46	18.75
QM9F4R-5601	2.00	-0.03	-0.45	6.80	-0.45	-1.34	17.10	0.82	0.83	17.10
QNK9ZF-5602	2.00	-0.03	-0.45	7.00	-0.25	-0.74	17.00	0.72	0.73	16.60

TABLE 1  
Stain E, continued

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
QXCL4L- 5601	<b>22.00</b>	19.97	320.49 X	<b>77.00</b>	69.75	207.53 X	<b>16.60</b>	0.32	0.32	16.60
R7G336- 5602	<b>2.20</b>	0.17	2.76	<b>7.90</b>	0.65	1.93	<b>16.00</b>	-0.28	-0.29	16.17
RLV2FJ- 5602	<b>2.10</b>	0.07	1.15	<b>7.40</b>	0.15	0.45	<b>16.50</b>	0.22	0.22	16.49
RLV9D6- 5602	<b>2.00</b>	-0.03	-0.45	<b>6.80</b>	-0.45	-1.34	<b>17.10</b>	0.82	0.83	17.10
RRHVBV- 5602	<b>2.00</b>	-0.03	-0.45	<b>7.40</b>	0.15	0.45	<b>16.00</b>	-0.28	-0.29	15.68
RTWMY7- 5601	<b>2.00</b>	-0.03	-0.45	<b>7.40</b>	0.15	0.45	<b>15.68</b>	-0.60	-0.62	15.68
RWUY2X- 5602	<b>2.10</b>	0.07	1.15	<b>7.50</b>	0.25	0.74	<b>16.00</b>	-0.28	-0.29	16.26
T8R8D9- 5601	<b>2.13</b>	0.10	1.67	<b>7.76</b>	0.51	1.50	<b>15.96</b>	-0.32	-0.33	15.96
T97LRA- 5605	<b>2.00</b>	-0.03	-0.45	<b>7.00</b>	-0.25	-0.74	<b>16.60</b>	0.32	0.32	16.60
THRU76- 5601	<b>2.06</b>	0.03	0.51	<b>7.20</b>	-0.05	-0.15	<b>16.58</b>	0.30	0.30	16.63
TUA8RF- 5602	<b>1.50</b>	-0.53	-8.47 X	<b>5.17</b>	-2.08	-6.19 X	<b>17.00</b>	0.72	0.73	16.87
TVCCYA- 5601	<b>2.00</b>	-0.03	-0.45	<b>7.00</b>	-0.25	-0.74	<b>16.60</b>	0.32	0.32	16.60
TWBBJ3- 5602	<b>2.00</b>	-0.03	-0.45	<b>7.20</b>	-0.05	-0.15	<b>16.00</b>	-0.28	-0.29	16.13
TXMCYA- 5601	<b>2.00</b>	-0.03	-0.45	<b>7.40</b>	0.15	0.45	<b>16.00</b>	-0.28	-0.29	15.68
U2Z8LY- 5601	<b>2.00</b>	-0.03	-0.45	<b>7.80</b>	0.55	1.64	<b>14.90</b>	-1.38	-1.41	14.86
U7AMT2- 5601	<b>2.10</b>	0.07	1.15	<b>7.20</b>	-0.05	-0.15	<b>17.00</b>	0.72	0.73	16.96
U8746Y- 5602	<b>0.53</b>	-1.50	-24.04 X	<b>1.86</b>	-5.39	-16.04 X	<b>16.60</b>	0.32	0.32	16.56
UC2UBB- 5602	<b>2.10</b>	0.07	1.15	<b>7.70</b>	0.45	1.34	<b>15.83</b>	-0.45	-0.46	15.83
V786K6- 5605	<b>2.00</b>	-0.03	-0.45	<b>7.20</b>	-0.05	-0.15	<b>16.10</b>	-0.18	-0.19	16.13
VG9HQX- 5601	<b>2.00</b>	-0.03	-0.45	<b>7.00</b>	-0.25	-0.74	<b>16.60</b>	0.32	0.32	16.60
VK9UKC- 5602	<b>1.90</b>	-0.13	-2.06	<b>6.90</b>	-0.35	-1.04	<b>16.00</b>	-0.28	-0.29	15.98
VTKXM4- 5605	<b>1.90</b>	-0.13	-2.06	<b>6.80</b>	-0.45	-1.34	<b>16.00</b>	-0.28	-0.29	16.23

TABLE 1  
Stain E, continued

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
VUGDY2-5602	2.57	0.54	8.70 X	7.48	0.23	0.68	20.00	3.72	3.79 X	20.10 X
W4KVXB-5602	2.10	0.07	1.15	7.50	0.25	0.74	16.00	-0.28	-0.29	16.26
WLYC24-5601	2.00	-0.03	-0.45	7.20	-0.05	-0.15	16.13	-0.15	-0.16	16.13
WNMXMY-5601	2.57	0.54	8.70 X	7.48	0.23	0.68	20.00	3.72	3.79 X	20.10 X
WV8UTA-5601	1.92	-0.11	-1.73	6.70	-0.55	-1.64	17.00	0.72	0.73	16.65
WXDEGA-5601	2.00	-0.03	-0.45	7.50	0.25	0.74	16.00	-0.28	-0.29	15.47
WXF2Z9-5602	2.00	-0.03	-0.45	7.60	0.35	1.04	15.00	-1.28	-1.31	15.26
WYLQWQ-5601	2.16	0.13	2.12	6.83	-0.42	-1.25	19.00	2.72	2.77	18.44
X34794-5601	2.00	-0.03	-0.45	7.10	-0.15	-0.45	16.40	0.12	0.12	16.36
X6QRUY-5601	2.40	0.37	5.97 X	8.18	0.93	2.77	17.00	0.72	0.73	17.06
X8VHW9-5601	2.00	-0.03	-0.45	7.00	-0.25	-0.74	16.60	0.32	0.32	16.60
XA6FGG-5602	2.00	-0.03	-0.45	8.00	0.75	2.23	14.50	-1.78	-1.82	14.48
XD6QBV-5602	11.40	9.37	150.39 X	38.90	31.65	94.17 X	17.00	0.72	0.73	17.04
XDG9LN-5602	2.00	-0.03	-0.45	7.50	0.25	0.74	15.47	-0.81	-0.83	15.47
XEH2N3-5601	2.00	-0.03	-0.45	7.20	-0.05	-0.15	16.13	-0.15	-0.16	16.13
XJTBDC-5602	2.10	0.07	1.15	7.20	-0.05	-0.15	17.00	0.72	0.73	16.96
XUAW3E-5601	2.00	-0.03	-0.45	7.20	-0.05	-0.15	16.10	-0.18	-0.19	16.13
Y4WETR-5601	2.10	0.07	1.15	7.50	0.25	0.74	16.30	0.02	0.02	16.26
Y7H7Y3-5601	1.92	-0.11	-1.73	7.31	0.06	0.18	15.20	-1.08	-1.11	15.23
YC7TP3-5605	2.00	-0.03	-0.45	7.40	0.15	0.45	16.00	-0.28	-0.29	15.68
YGGWLW-5605	2.10	0.07	1.15	6.40	-0.85	-2.53	19.00	2.72	2.77	19.16 X
YGZK26-5602	2.00	-0.03	-0.45	7.72	0.47	1.40	15.00	-1.28	-1.31	15.01

TABLE 1  
Stain E, continued

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
YHTHCX-5602	2.00	-0.03	-0.45	7.40	0.15	0.45	16.00	-0.28	-0.29	15.68
YKYW2C-5602	2.00	-0.03	-0.45	7.40	0.15	0.45	15.68	-0.60	-0.62	15.68
YU3BJ4-5602	2.00	-0.03	-0.45	8.00	0.75	2.23	14.47	-1.81	-1.85	14.48
YVJF8U-5601	2.00	-0.03	-0.45	7.20	-0.05	-0.15	16.00	-0.28	-0.29	16.13
YVJHQ7-5601	2.05	0.02	0.35	7.21	-0.04	-0.12	16.50	0.22	0.22	16.52
YX4EBQ-5602	2.00	-0.03	-0.45	8.00	0.75	2.23	15.00	-1.28	-1.31	14.48
Z3EP67-5602	2.03	0.00	0.03	7.46	0.21	0.62	15.78	-0.50	-0.51	15.79
Z8U9BU-5602	2.00	-0.03	-0.45	7.00	-0.25	-0.74	16.60	0.32	0.32	16.60
ZACJUR-5601	2.00	-0.03	-0.45	7.40	0.15	0.45	15.70	-0.58	-0.60	15.68
ZGENT3-5601	2.00	-0.03	-0.45	7.40	0.15	0.45	15.68	-0.60	-0.62	15.68
ZPNZ2T-5601	2.10	0.07	1.15	7.30	0.05	0.15	16.70	0.42	0.42	16.72
ZTLJ4R-5601	2.18	0.15	2.44	7.26	0.01	0.03	17.00	0.72	0.73	17.47
Grand Mean	2.03			7.25			16.28			16.25
Standard Deviation	0.06			0.34			0.98			0.89
Participants Included in calculations	187			196			202			201
Participants excluded from calculations (indicated by X)	23			14			8			9

Stain E Preparation Angle: 16.9°

## Section II: Pattern Description

For each of the following patterns, indicate the single pattern type that best describes the mechanism of deposition.

TABLE 2 - Part 1: Mechanism of Deposition

### Item 2

WebCode-Test	Pattern Type	WebCode-Test	Pattern Type
28Z7RF-5601	Swipe Pattern	4F9KKV-5602	Swipe Pattern
2E7TNP-5601	Swipe Pattern	4LUA8Q-5605	Swipe Pattern
2NQ3BX-5601	Swipe Pattern	4TUUAL-5601	Swipe Pattern
2QDNXU-5601	Swipe Pattern	4ZH9L9-5602	Swipe Pattern
2Y64LX-5602	Swipe Pattern	694T3Q-5601	Swipe Pattern
2Z438R-5601	Swipe Pattern	6G3D77-5601	Swipe Pattern
32EBPQ-5601	Swipe Pattern	6KF7BD-5601	Wipe Pattern
33RZUN-5605	Swipe Pattern	6R2962-5602	Swipe Pattern
34MG98-5601	Swipe Pattern	6U4YKP-5601	Swipe Pattern
36UZQF-5601	Swipe Pattern	72JCP7-5601	Swipe Pattern
36VTRU-5601	Swipe Pattern	77WXVR-5602	Swipe Pattern
3BFVRJ-5601	Swipe Pattern	794D3X-5602	Swipe Pattern
3CCC72-5602	Swipe Pattern	7BP47N-5605	Swipe Pattern
3G9VC7-5602	Swipe Pattern	7CY9LX-5602	Swipe Pattern
3P29AK-5602	Swipe Pattern	7ERZX4-5602	Swipe Pattern
3PJFBV-5601	Swipe Pattern	7JMR8L-5601	Swipe Pattern
3PYLQL-5601	Swipe Pattern	7JQ6ZN-5601	Swipe Pattern
4BCV4N-5605	Swipe Pattern	7L8JDW-5602	Swipe Pattern
4CTXY4-5601	Swipe Pattern	7W7JLU-5605	Swipe Pattern



## TABLE 2 - Part 1: Mechanism of Deposition

## Item 2, continued

WebCode-Test	Pattern Type	WebCode-Test	Pattern Type
7WN88V-5601	Swipe Pattern	B2RNV2-5601	Swipe Pattern
84M843-5602	Swipe Pattern	B3XA2D-5601	Swipe Pattern
8CZ7RM-5605	Swipe Pattern	B9MWTD-5601	Swipe Pattern
8K79TD-5602	Swipe Pattern	BC33R8-5605	Swipe Pattern
8L72UR-5601	Swipe Pattern	BEAME9-5602	Swipe Pattern
8T6RWU-5602	Swipe Pattern	BGF839-5601	Swipe Pattern
969HAL-5601	Wipe Pattern	BHQZ2G-5601	Swipe Pattern
98ZCDH-5602	Swipe Pattern	C3D2LH-5601	Swipe Pattern
99BJAJ-5602	Swipe Pattern	C48MGU-5601	Swipe Pattern
9EG3GN-5601	Swipe Pattern	CJZART-5602	Swipe Pattern
9N9JAY-5601	Swipe Pattern	CPQQZC-5601	Swipe Pattern
9ZG8JW-5602	Swipe Pattern	CVX4BH-5605	Transfer Stain
9ZHYEJ-5602	Swipe Pattern	CXJRN3-5602	Swipe Pattern
A4DCDT-5601	Swipe Pattern	CYDHTW-5602	Swipe Pattern
A7692M-5601	Swipe Pattern	D3TGGB-5601	Swipe Pattern
AA4HA3-5601	Swipe Pattern	D4NXT8-5605	Swipe Pattern
ABF7MN-5602	Wipe Pattern	D7BU4J-5601	Swipe Pattern
ADP68W-5601	Swipe Pattern	D7VBJL-5601	Swipe Pattern
AEGC6E-5601	Swipe Pattern	D9EPMM-5601	Swipe Pattern
AHRMVN-5602	Swipe Pattern	D9HW7H-5601	Swipe Pattern
ANLHYG-5605	Swipe Pattern	DPKWTC-5601	Swipe Pattern

## TABLE 2 - Part 1: Mechanism of Deposition

## Item 2, continued

WebCode-Test	Pattern Type	WebCode-Test	Pattern Type
DUJWMF-5601	Transfer Stain	GCQCAQ-5601	Swipe Pattern
DW388C-5601	Swipe Pattern	GNJVQG-5602	Swipe Pattern
DZ4BWE-5601	Swipe Pattern	GPA4R7-5605	Swipe Pattern
E2B4BD-5601	Swipe Pattern	GQPDND-5601	Transfer Stain
E9DWK9-5605	Swipe Pattern	GTWRGC-5602	Swipe Pattern
EBNRDR-5601	Swipe Pattern	GVZR9W-5605	Swipe Pattern
ED9NWB-5602	Swipe Pattern	GWC7XR-5602	Swipe Pattern
EE3EYJ-5602	Swipe Pattern	GWD49M-5601	Transfer Stain
EPHG6H-5601	Swipe Pattern	H24XJT-5602	Swipe Pattern
EV8YKE-5601	Swipe Pattern	H8QM7N-5602	Swipe Pattern
EXRQPP-5601	Swipe Pattern	H9JG28-5602	Swipe Pattern
F7PUKE-5601	Swipe Pattern	HBMBG4-5601	Swipe Pattern
F9ARMB-5602	Swipe Pattern	HELQRC-5602	Wipe Pattern
FCA3E6-5601	Swipe Pattern	HFZCJM-5602	Swipe Pattern
FK2H49-5602	Swipe Pattern	HKT99D-5601	Swipe Pattern
FPHN34-5605	Swipe Pattern	HTAP39-5601	Swipe Pattern
FTWK7K-5601	Swipe Pattern	JHLBDB-5602	Swipe Pattern
FUVJQD-5602	Swipe Pattern	K6BA96-5601	Swipe Pattern
G48FXN-5601	Wipe Pattern	K78MTC-5601	Swipe Pattern
G4UJV6-5605	Swipe Pattern	KEJMJ8-5602	Swipe Pattern
GBUYNJ-5601	Swipe Pattern	KF969L-5601	Swipe Pattern

## TABLE 2 - Part 1: Mechanism of Deposition

## Item 2, continued

WebCode-Test	Pattern Type	WebCode-Test	Pattern Type
KHZYCH-5602	Swipe Pattern	NRCCY3-5601	Swipe Pattern
KPLWZ6-5605	Swipe Pattern	NUF6T2-5601	Swipe Pattern
KVPWGL-5601	Swipe Pattern	NZCMD9-5602	Swipe Pattern
KWLCPC-5602	Swipe Pattern	P6ZPYJ-5601	Swipe Pattern
KYMFEE-5601	Swipe Pattern	P8LT7G-5601	Swipe Pattern
LEVQKC-5602	Swipe Pattern	PAR4ED-5601	Swipe Pattern
LR9QJQ-5601	Swipe Pattern	PLJUVB-5605	Swipe Pattern
LTJNW9-5605	Swipe Pattern	PNCJHD-5601	Swipe Pattern
LWDWPG-5601	Swipe Pattern	Q3NEEK-5602	Swipe Pattern
M3XCVZ-5602	Swipe Pattern	Q9C24Y-5601	Swipe Pattern
MAH6DQ-5602	Swipe Pattern	QDP4RF-5601	Swipe Pattern
MDHGAQ-5601	Swipe Pattern	QKMP3N-5602	Swipe Pattern
MFN2WQ-5601	Swipe Pattern	QL6TH2-5605	Swipe Pattern
MHDA3L-5601	Swipe Pattern	QM9F4R-5601	Swipe Pattern
MM4RB6-5602	Swipe Pattern	QNK9ZF-5602	Swipe Pattern
MPT2E6-5602	Swipe Pattern	QXCL4L-5601	Swipe Pattern
MWCE8C-5601	Swipe Pattern	R7G336-5602	Drip Stain
N7YMK9-5602	Swipe Pattern	RLV2FJ-5602	Swipe Pattern
NDEEWR-5601	Swipe Pattern	RLV9D6-5602	Swipe Pattern
NJYL96-5601	Swipe Pattern	RPGZDE-5601	Swipe Pattern
NKYEBJ-5602	Swipe Pattern	RRHVBV-5602	Swipe Pattern

## TABLE 2 - Part 1: Mechanism of Deposition

## Item 2, continued

WebCode-Test	Pattern Type	WebCode-Test	Pattern Type
RTWMY7-5601	Swipe Pattern	WNMXY-5601	Wipe Pattern
RWUY2X-5602	Swipe Pattern	WTL3MY-5602	Swipe Pattern
T8R8D9-5601	Swipe Pattern	WV8UTA-5601	Swipe Pattern
T97LRA-5605	Swipe Pattern	WXDEGA-5601	Swipe Pattern
THRU76-5601	Swipe Pattern	WXF2Z9-5602	Swipe Pattern
TUA8RF-5602	Swipe Pattern	WYLQWQ-5601	Swipe Pattern
TVCCYA-5601	Swipe Pattern	X34794-5601	Swipe Pattern
TWBBJ3-5602	Swipe Pattern	X6QRUY-5601	Wipe Pattern
TXMCYA-5601	Swipe Pattern	X8VHW9-5601	Swipe Pattern
U2Z8LY-5601	Swipe Pattern	XA6FGG-5602	Swipe Pattern
U7AMT2-5601	Swipe Pattern	XD6QBV-5602	Swipe Pattern
U8746Y-5602	Swipe Pattern	XDG9LN-5602	Swipe Pattern
UC2UBB-5602	Swipe Pattern	XEH2N3-5601	Swipe Pattern
V786K6-5605	Swipe Pattern	XJTBDC-5602	Swipe Pattern
VG9HQX-5601	Swipe Pattern	XUAW3E-5601	Swipe Pattern
VK9UKC-5602	Swipe Pattern	Y4WETR-5601	Swipe Pattern
VTXM4-5605	Swipe Pattern	Y7H7Y3-5601	Swipe Pattern
VUGDY2-5602	Wipe Pattern	YC7TP3-5605	Swipe Pattern
W4KVXB-5602	Swipe Pattern	YGGWLW-5605	Swipe Pattern
WLYC24-5601	Swipe Pattern	YGZK26-5602	Swipe Pattern
WN9GGD-5601	Swipe Pattern	YHTHCX-5602	Swipe Pattern

## TABLE 2 - Part 1: Mechanism of Deposition

**Item 2, continued**

<b>WebCode-Test</b>	<b>Pattern Type</b>	<b>WebCode-Test</b>	<b>Pattern Type</b>
YKYW2C-5602	Swipe Pattern		
YU3BJ4-5602	Swipe Pattern		
YVJF8U-5601	Swipe Pattern		
YVJHQ7-5601	Swipe Pattern		
YX4EBQ-5602	Swipe Pattern		
Z3EP67-5602	Swipe Pattern		
Z8U9BU-5602	Swipe Pattern		
ZACJUR-5601	Swipe Pattern		
ZGENT3-5601	Swipe Pattern		
ZPNZ2T-5601	Swipe Pattern		
ZTLJ4R-5601	Swipe Pattern		

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**Pattern Types reported for Item 2  
(Total Participants Responding = 217)**

<u>Pattern Type</u>	<u>Percent Reported</u>
Swipe Pattern	204 (94.0%)
Wipe Pattern	8 (3.7%)
Transfer Stain	4 (1.8%)
Drip Stain	1 (0.5%)

## TABLE 2 - Part 1: Mechanism of Deposition

**Item 3**

<b>WebCode-Test</b>	<b>Pattern Type</b>	<b>WebCode-Test</b>	<b>Pattern Type</b>
28Z7RF-5601	Drip Stain	4TUUAL-5601	Drip Stain
2E7TNP-5601	Drip Stain	4ZH9L9-5602	Drip Stain
2NQ3BX-5601	Drip Stain	694T3Q-5601	Drip Stain
2QDNXU-5601	Drip Stain	6G3D77-5601	Drip Stain
2Y64LX-5602	Drip Stain	6KF7BD-5601	Drip Stain
2Z438R-5601	Drip Stain	6R2962-5602	Drip Stain
32EBPQ-5601	Drip Stain	6U4YKP-5601	Drip Stain
33RZUN-5605	Drip Stain	72JCP7-5601	Drip Stain
34MG98-5601	Drip Stain	77WXVR-5602	Drip Stain
36UZQF-5601	Drip Stain	794D3X-5602	Drip Stain
36VTRU-5601	Drip Stain	7BP47N-5605	Drip Pattern
3BFVRJ-5601	Drip Stain	7CY9LX-5602	Drip Stain
3CCC72-5602	Drip Stain	7ERZX4-5602	Drip Stain
3G9VC7-5602	Drip Stain	7JMR8L-5601	Drip Stain
3P29AK-5602	Drip Stain	7JQ6ZN-5601	Drip Stain
3PJFBV-5601	Drip Stain	7L8JDW-5602	Drip Stain
3PYLQL-5601	Drip Stain	7W7JLU-5605	Drip Stain
4BCV4N-5605	Drip Stain	7WN88V-5601	Drip Stain
4CTXY4-5601	Drip Stain	84M843-5602	Drip Stain
4F9KKV-5602	Drip Stain	8CZ7RM-5605	Drip Stain
4LUA8Q-5605	Drip Stain	8K79TD-5602	Drip Stain

## TABLE 2 - Part 1: Mechanism of Deposition

## Item 3, continued

WebCode-Test	Pattern Type	WebCode-Test	Pattern Type
8L72UR-5601	Drip Stain	BEAME9-5602	Drip Stain
8T6RWU-5602	Drip Stain	BGF839-5601	Drip Stain
969HAL-5601	Drip Stain	BHQZ2G-5601	Drip Pattern
98ZCDH-5602	Drip Stain	C3D2LH-5601	Drip Stain
99BJAJ-5602	Drip Stain	C48MGU-5601	Drip Stain
9EG3GN-5601	Drip Stain	CJZART-5602	Drip Stain
9N9JAY-5601	Drip Stain	CPQQZC-5601	Drip Stain
9ZG8JW-5602	Drip Stain	CVX4BH-5605	Drip Stain
9ZHYEJ-5602	Drip Stain	CXJRN3-5602	Drip Stain
A4DCDT-5601	Drip Stain	CYDHTW-5602	Drip Stain
A7692M-5601	Drip Stain	D3TGGB-5601	Drip Stain
AA4HA3-5601	Drip Pattern	D4NXT8-5605	Drip Stain
ABF7MN-5602	Drip Pattern	D7BU4J-5601	Drip Stain
ADP68W-5601	Drip Stain	D7VBJL-5601	Drip Stain
AEGC6E-5601	Drip Stain	D9EPM-5601	Drip Stain
AHRMVN-5602	Drip Stain	D9HW7H-5601	Drip Stain
ANLHYG-5605	Drip Stain	DPKWTC-5601	Drip Stain
B2RNV2-5601	Drip Stain	DUJWMF-5601	Drip Stain
B3XA2D-5601	Drip Stain	DW388C-5601	Drip Stain
B9MWTD-5601	Drip Stain	DZ4BWE-5601	Drip Stain
BC33R8-5605	Drip Stain	E2B4BD-5601	Drip Stain

## TABLE 2 - Part 1: Mechanism of Deposition

## Item 3, continued

WebCode-Test	Pattern Type	WebCode-Test	Pattern Type
E9DWK9-5605	Drip Stain	GTWRGC-5602	Drip Stain
EBNRDR-5601	Drip Stain	GVZR9W-5605	Drip Stain
ED9NWB-5602	Drip Stain	GWC7XR-5602	Drip Stain
EE3EYJ-5602	Drip Stain	GWD49M-5601	Drip Stain
EPHG6H-5601	Drip Stain	H24XJT-5602	Drip Stain
EV8YKE-5601	Drip Stain	H8QM7N-5602	Drip Pattern
EXRQPP-5601	Drip Stain	H9JG28-5602	Drip Stain
F7PUKE-5601	Drip Stain	HBMBG4-5601	Drip Stain
F9ARMB-5602	Drip Stain	HELRQC-5602	Drip Stain
FCA3E6-5601	Drip Stain	HFZCJM-5602	Drip Stain
FK2H49-5602	Drip Stain	HKT99D-5601	Drip Stain
FPHN34-5605	Drip Stain	HTAP39-5601	Drip Stain
FTWK7K-5601	Drip Stain	JHLBDB-5602	Drip Stain
FUVJQD-5602	Drip Stain	K6BA96-5601	Drip Stain
G48FXN-5601	Drip Stain	K78MTC-5601	Drip Stain
G4UJV6-5605	Drip Pattern	KEJMJ8-5602	Drip Stain
GBUYNJ-5601	Drip Stain	KF969L-5601	Drip Stain
GCQCAQ-5601	Drip Stain	KHZYCH-5602	Drip Stain
GNJVQG-5602	Drip Stain	KPLWZ6-5605	Drip Stain
GPA4R7-5605	Drip Stain	KVPWGL-5601	Drip Stain
GQPDND-5601	Drip Stain	KWLCPC-5602	Drip Stain



## TABLE 2 - Part 1: Mechanism of Deposition

## Item 3, continued

WebCode-Test	Pattern Type	WebCode-Test	Pattern Type
KYMFEE-5601	Drip Stain	P8LT7G-5601	Drip Stain
LEVQKC-5602	Drip Stain	PAR4ED-5601	Drip Stain
LR9QJQ-5601	Drip Stain	PLJUVB-5605	Drip Stain
LTJNW9-5605	Drip Stain	PNCJHD-5601	Drip Stain
LWDWPG-5601	Drip Stain	Q3NEEK-5602	Drip Stain
M3XCVZ-5602	Drip Stain	Q9C24Y-5601	Drip Stain
MAH6DQ-5602	Drip Stain	QDP4RF-5601	Drip Stain
MDHGAQ-5601	Drip Stain	QKMP3N-5602	Drip Pattern
MFN2WQ-5601	Drip Stain	QL6TH2-5605	Drip Stain
MHDA3L-5601	Drip Stain	QM9F4R-5601	Drip Stain
MM4RB6-5602	Drip Stain	QNK9ZF-5602	Drip Stain
MPT2E6-5602	Drip Stain	QXCL4L-5601	Drip Stain
MWCE8C-5601	Drip Stain	R7G336-5602	Swipe Pattern
N7YMK9-5602	Drip Stain	RLV2FJ-5602	Drip Stain
NDEEWR-5601	Drip Stain	RLV9D6-5602	Drip Stain
NJYL96-5601	Drip Stain	RPGZDE-5601	Drip Stain
NKYEBJ-5602	Drip Stain	RRHVBV-5602	Drip Stain
NRCCY3-5601	Drip Stain	RTWMY7-5601	Drip Pattern
NUF6T2-5601	Drip Stain	RWUY2X-5602	Drip Stain
NZCMD9-5602	Drip Stain	T8R8D9-5601	Drip Stain
P6ZPYJ-5601	Drip Stain	T97LRA-5605	Drip Stain

## TABLE 2 - Part 1: Mechanism of Deposition

## Item 3, continued

WebCode-Test	Pattern Type	WebCode-Test	Pattern Type
THRU76-5601	Drip Stain	WXF2Z9-5602	Drip Stain
TUA8RF-5602	Drip Stain	WYLQWQ-5601	Drip Stain
TVCCYA-5601	Drip Stain	X34794-5601	Drip Stain
TWBBJ3-5602	Drip Stain	X6QRUY-5601	Drip Stain
TXMCYA-5601	Drip Stain	X8VHW9-5601	Drip Stain
U2Z8LY-5601	Drip Stain	XA6FGG-5602	Drip Stain
U7AMT2-5601	Drip Stain	XD6QBV-5602	Drip Stain
U8746Y-5602	Drip Stain	XDG9LN-5602	Drip Stain
UC2UBB-5602	Drip Stain	XEH2N3-5601	Drip Stain
V786K6-5605	Drip Stain	XJTBDC-5602	Drip Stain
VG9HQX-5601	Drip Stain	XUAW3E-5601	Drip Stain
VK9UKC-5602	Drip Stain	Y4WETR-5601	Drip Stain
VTKXM4-5605	Drip Stain	Y7H7Y3-5601	Drip Stain
VUGDY2-5602	Drip Stain	YC7TP3-5605	Drip Stain
W4KVXB-5602	Drip Stain	YGGWLW-5605	Drip Stain
WLYC24-5601	Drip Stain	YGZK26-5602	Drip Stain
WN9GGD-5601	Drip Stain	YHTHCX-5602	Drip Stain
WNMXY-5601	Drip Pattern	YKYW2C-5602	Drip Stain
WTL3MY-5602	Drip Stain	YU3BJ4-5602	Drip Stain
WV8UTA-5601	Drip Stain	YVJF8U-5601	Drip Stain
WXDEGA-5601	Drip Stain	YVJHQ7-5601	Drip Stain

## TABLE 2 - Part 1: Mechanism of Deposition

**Item 3, continued**

<b>WebCode-Test</b>	<b>Pattern Type</b>	<b>WebCode-Test</b>	<b>Pattern Type</b>
YX4EBQ-5602	Drip Stain		
Z3EP67-5602	Drip Stain		
Z8U9BU-5602	Drip Stain		
ZACJUR-5601	Drip Stain		
ZGENT3-5601	Drip Stain		
ZPNZ2T-5601	Drip Stain		
ZTLJ4R-5601	Drip Stain		

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**Pattern Types reported for Item 3  
(Total Participants Responding = 217)**

<u>Pattern Type</u>	<u>Percent Reported</u>
Drip Stain	207 (95.4%)
Drip Pattern	9 (4.1%)
Swipe Pattern	1 (0.5%)

TABLE 2 - Part 1: Mechanism of Deposition

**Item 4**

<b>WebCode-Test</b>	<b>Pattern Type</b>	<b>WebCode-Test</b>	<b>Pattern Type</b>
28Z7RF-5601	Saturation Stain	4TUUAL-5601	Saturation Stain
2E7TNP-5601	Saturation Stain	4ZH9L9-5602	Saturation Stain
2NQ3BX-5601	Saturation Stain	694T3Q-5601	Saturation Stain
2QDNXU-5601	Saturation Stain	6G3D77-5601	Saturation Stain
2Y64LX-5602	Saturation Stain	6KF7BD-5601	Saturation Stain
2Z438R-5601	Saturation Stain	6R2962-5602	Saturation Stain
32EBPQ-5601	Saturation Stain	6U4YKP-5601	Saturation Stain
33RZUN-5605	Saturation Stain	72JCP7-5601	Saturation Stain
34MG98-5601	Saturation Stain	77WXVR-5602	Saturation Stain
36UZQF-5601	Saturation Stain	794D3X-5602	Saturation Stain
36VTRU-5601	Saturation Stain	7BP47N-5605	Saturation Stain
3BFVRJ-5601	Saturation Stain	7CY9LX-5602	Saturation Stain
3CCC72-5602	Saturation Stain	7ERZX4-5602	Saturation Stain
3G9VC7-5602	Saturation Stain	7JMR8L-5601	Saturation Stain
3P29AK-5602	Saturation Stain	7JQ6ZN-5601	Saturation Stain
3PJFBV-5601	Saturation Stain	7L8JDW-5602	Saturation Stain
3PYLQL-5601	Saturation Stain	7W7JLU-5605	Saturation Stain
4BCV4N-5605	Saturation Stain	7WN88V-5601	Drip Pattern
4CTXY4-5601	Saturation Stain	84M843-5602	Saturation Stain
4F9KKV-5602	Saturation Stain	8CZ7RM-5605	Saturation Stain
4LUA8Q-5605	Saturation Stain	8K79TD-5602	Saturation Stain

## TABLE 2 - Part 1: Mechanism of Deposition

**Item 4, continued**

<b>WebCode-Test</b>	<b>Pattern Type</b>	<b>WebCode-Test</b>	<b>Pattern Type</b>
8L72UR-5601	Saturation Stain	BEAME9-5602	Saturation Stain
8T6RWU-5602	Saturation Stain	BGF839-5601	Saturation Stain
969HAL-5601	Transfer Stain	BHQZ2G-5601	Saturation Stain
98ZCDH-5602	Saturation Stain	C3D2LH-5601	Saturation Stain
99BJAJ-5602	Saturation Stain	C48MGU-5601	Saturation Stain
9EG3GN-5601	Saturation Stain	CJZART-5602	Saturation Stain
9N9JAY-5601	Saturation Stain	CPQQZC-5601	Saturation Stain
9ZG8JW-5602	Saturation Stain	CVX4BH-5605	Saturation Stain
9ZHYEJ-5602	Saturation Stain	CXJRN3-5602	Saturation Stain
A4DCDT-5601	Saturation Stain	CYDHTW-5602	Saturation Stain
A7692M-5601	Saturation Stain	D3TGGB-5601	Saturation Stain
AA4HA3-5601	Saturation Stain	D4NXT8-5605	Saturation Stain
ABF7MN-5602	Saturation Stain, Transfer Stain	D7BU4J-5601	Saturation Stain
ADP68W-5601	Saturation Stain	D7VBJL-5601	Saturation Stain
AEGC6E-5601	Saturation Stain	D9EPMM-5601	Saturation Stain
AHRMVN-5602	Saturation Stain	D9HW7H-5601	Saturation Stain
ANLHYG-5605	Saturation Stain	DPKWTC-5601	Saturation Stain
B2RNV2-5601	Saturation Stain	DUJWMF-5601	Saturation Stain
B3XA2D-5601	Saturation Stain	DW388C-5601	Saturation Stain
B9MWTD-5601	Saturation Stain	DZ4BWE-5601	Saturation Stain
BC33R8-5605	Saturation Stain	E2B4BD-5601	Saturation Stain

## TABLE 2 - Part 1: Mechanism of Deposition

**Item 4, continued**

<b>WebCode-Test</b>	<b>Pattern Type</b>	<b>WebCode-Test</b>	<b>Pattern Type</b>
E9DWK9-5605	Saturation Stain	GTWRGC-5602	Saturation Stain
EBNRDR-5601	Saturation Stain	GVZR9W-5605	Saturation Stain
ED9NWB-5602	Saturation Stain	GWC7XR-5602	Saturation Stain
EE3EYJ-5602	Saturation Stain	GWD49M-5601	Saturation Stain
EPHG6H-5601	Saturation Stain	H24XJT-5602	Saturation Stain
EV8YKE-5601	Saturation Stain	H8QM7N-5602	Saturation Stain
EXRQPP-5601	Saturation Stain	H9JG28-5602	Saturation Stain
F7PUKE-5601	Saturation Stain	HBMBG4-5601	Saturation Stain
F9ARMB-5602	Saturation Stain	HELRQC-5602	Saturation Stain
FCA3E6-5601	Saturation Stain	HFZCJM-5602	Saturation Stain
FK2H49-5602	Saturation Stain	HKT99D-5601	Saturation Stain
FPHN34-5605	Saturation Stain	HTAP39-5601	Saturation Stain
FTWK7K-5601	Saturation Stain	JHLBDB-5602	Saturation Stain
FUVJQD-5602	Saturation Stain	K6BA96-5601	Saturation Stain
G48FXN-5601	Saturation Stain	K78MTC-5601	Saturation Stain
G4UJV6-5605	Saturation Stain	KEJMJ8-5602	Saturation Stain
GBUYNJ-5601	Saturation Stain	KF969L-5601	Saturation Stain
GCQCAQ-5601	Saturation Stain	KHZYCH-5602	Saturation Stain
GNJVQG-5602	Saturation Stain	KPLWZ6-5605	Saturation Stain
GPA4R7-5605	Saturation Stain	KVPWGL-5601	Saturation Stain
GQPDND-5601	Saturation Stain	KWLCPC-5602	Saturation Stain

## TABLE 2 - Part 1: Mechanism of Deposition

**Item 4, continued**

<b>WebCode-Test</b>	<b>Pattern Type</b>	<b>WebCode-Test</b>	<b>Pattern Type</b>
KYMFEE-5601	Saturation Stain	P8LT7G-5601	Saturation Stain
LEVQKC-5602	Saturation Stain	PAR4ED-5601	Saturation Stain
LR9QJQ-5601	Saturation Stain	PLJUVB-5605	Saturation Stain
LTJNW9-5605	Saturation Stain	PNCJHD-5601	Saturation Stain
LWDWPG-5601	Saturation Stain	Q3NEEK-5602	Saturation Stain
M3XCVZ-5602	Saturation Stain	Q9C24Y-5601	Saturation Stain
MAH6DQ-5602	Saturation Stain	QDP4RF-5601	Saturation Stain
MDHGAQ-5601	Saturation Stain	QKMP3N-5602	Saturation Stain
MFN2WQ-5601	Saturation Stain	QL6TH2-5605	Saturation Stain
MHDA3L-5601	Saturation Stain	QM9F4R-5601	Saturation Stain
MM4RB6-5602	Saturation Stain	QNK9ZF-5602	Saturation Stain
MPT2E6-5602	Saturation Stain	QXCL4L-5601	Saturation Stain
MWCE8C-5601	Saturation Stain	R7G336-5602	Saturation Stain
N7YMK9-5602	Saturation Stain	RLV2FJ-5602	Saturation Stain
NDEEWR-5601	Saturation Stain	RLV9D6-5602	Saturation Stain
NJYL96-5601	Saturation Stain	RPGZDE-5601	Saturation Stain
NKYEBJ-5602	Saturation Stain	RRHVBV-5602	Saturation Stain
NRCCY3-5601	Saturation Stain	RTWMY7-5601	Saturation Stain
NUF6T2-5601	Saturation Stain	RWUY2X-5602	Saturation Stain
NZCMD9-5602	Saturation Stain	T8R8D9-5601	Saturation Stain
P6ZPYJ-5601	Saturation Stain	T97LRA-5605	Saturation Stain

## TABLE 2 - Part 1: Mechanism of Deposition

**Item 4, continued**

<b>WebCode-Test</b>	<b>Pattern Type</b>	<b>WebCode-Test</b>	<b>Pattern Type</b>
THRU76-5601	Saturation Stain	WXF2Z9-5602	Saturation Stain
TUA8RF-5602	Saturation Stain	WYLQWQ-5601	Saturation Stain
TVCCYA-5601	Saturation Stain	X34794-5601	Saturation Stain
TWBBJ3-5602	Saturation Stain	X6QRUY-5601	Saturation Stain, Transfer Stain
TXMCYA-5601	Saturation Stain	X8VHW9-5601	Saturation Stain
U2Z8LY-5601	Saturation Stain	XA6FGG-5602	Saturation Stain
U7AMT2-5601	Saturation Stain	XD6QBV-5602	Saturation Stain
U8746Y-5602	Saturation Stain	XDG9LN-5602	Saturation Stain
UC2UBB-5602	Saturation Stain	XEH2N3-5601	Saturation Stain
V786K6-5605	Saturation Stain	XJTBDC-5602	Saturation Stain
VG9HQX-5601	Saturation Stain	XUAW3E-5601	Saturation Stain
VK9UKC-5602	Saturation Stain	Y4WETR-5601	Saturation Stain
VTKXM4-5605	Saturation Stain	Y7H7Y3-5601	Saturation Stain
VUGDY2-5602	Saturation Stain, Transfer Stain	YC7TP3-5605	Saturation Stain
W4KVXB-5602	Saturation Stain	YGGWLW-5605	Saturation Stain
WLYC24-5601	Saturation Stain	YGZK26-5602	Saturation Stain
WN9GGD-5601	Saturation Stain	YHTHCX-5602	Saturation Stain
WNMXY-5601	Saturation Stain, Transfer Stain	YKYW2C-5602	Saturation Stain
WTL3MY-5602	Saturation Stain	YU3BJ4-5602	Saturation Stain
WV8UTA-5601	Saturation Stain	YVJF8U-5601	Saturation Stain
WXDEGA-5601	Saturation Stain	YVJHQ7-5601	Saturation Stain



## TABLE 2 - Part 1: Mechanism of Deposition

**Item 4, continued**

<b>WebCode-Test</b>	<b>Pattern Type</b>	<b>WebCode-Test</b>	<b>Pattern Type</b>
YX4EBQ-5602	Saturation Stain		
Z3EP67-5602	Saturation Stain		
Z8U9BU-5602	Saturation Stain		
ZACJUR-5601	Saturation Stain		
ZGENT3-5601	Saturation Stain		
ZPNZ2T-5601	Saturation Stain		
ZTLJ4R-5601	Saturation Stain		

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**Pattern Types reported for Item 4  
(Total Participants Responding = 217)**

<u>Pattern Type</u>	<u>Percent Reported</u>
Saturation Stain	211 (97.2%)
Saturation Stain, Transfer Stain	4 (1.8%)
Drip Pattern	1 (0.5%)
Transfer Stain	1 (0.5%)

## Section II: Pattern Description

TABLE 2 - Part 2: Recognition and Description

### Item 5

WebCode-Test	Detailed Pattern Description
28Z7RF-5601	In item 5, two cast-off pattern that intersect can be observed. There's also a wipe pattern on the left side of the picture and three well defined drip stains surrounding the wipe pattern.
2E7TNP-5601	Item 5 is photograph of a complex bloodstain pattern on white cardboard. There is a transfer bloodstains on the left side of the image. This stain is approximately 8.5 cm by 2 cm in size and is fairly rectangular in shape. A heavier concentration of blood is present along the left edge of the stain which was likely the result of capillary action when the object was removed from the cardboard. A small irregular-shaped bloodstain approximately 1 cm by 0.8 cm is near the top center of the image. It is possible that this is also a transfer stain. Two drip bloodstains are on the left side of the image and one is near the center bottom of the image. The drip stains are near-circular in shape with scalloped edges and range in size from 1.3 cm to 1.5 cm. The stain near the center bottom has two associated spines. At least four satellite spatter bloodstains are around the drip bloodstains near the top left corner of the image. A cast-off bloodstain pattern is present across the width of the image. This pattern consists of at least 14 individual spatter bloodstains in a linear orientation that range in size from approximately 2 mm to 4.5 mm in size. The stains are near circular on the right side of the pattern and become slightly elliptical towards the left side of the image. The length of the pattern is approximately 32 cm. A second cast-off bloodstain pattern is present across the image from near the top right corner to bottom left corner. This pattern consists of at least 12 individual spatter bloodstains in a linear orientation that range in size from approximately 3 mm to 5 mm in size. All of the stains are near circular in shape and there is no progressive impact angle change. The length of the pattern is approximately 27.5 cm.
2NQ3BX-5601	One pattern extends from the left side of the photo to the right side, and a second similar pattern extends from the top of the photo to the bottom. The stain crossing the photo left/right appears to have a very slight change in impact angle, with the rightmost stains appearing more circular than the leftmost stains. However, this examiner does not feel there is enough of the stain/target surface present to show whether or not there is a clear progressive and consistent change in the impact angle. These two patterns are most closely consistent with cast-off patterns. There are three drops within the photo: one near the upper left corner, one near the left side, and the third slightly below center. They are consistent with drip stains that have formed due to gravity. In the top center of the photo is an irregularly-shaped stain. It is unclear whether this stain was accidental or intentional. It is consistent with a bloodstain (a deposit of blood on a surface). The remaining pattern is on the left hand side of the photo. This pattern is consistent with a transfer stain. There are two voids within the stain near the upper left and bottom.
2QDNXU-5601	Item 5 is a piece of white cardboard in the horizontal plane with a complex pattern consisting of the following: From top to bottom: 1. Drip Trail top to bottom -> Bloodstain pattern resulting from the movement of a source of drip stains between two points. 2. Pool -> Bloodstain resulting from an accumulation of liquid blood on a surface. 3. Drip/Parent/Satellite stain -> Bloodstain resulting from falling drop that formed due to gravity. Bloodstain from which satellite stain originated. Smaller stain that originated during the formation of the parent stain as a result of blood impacting a surface. 4. Drip Trail right to left -> Bloodstain pattern resulting from the movement of a source of drip stains between two points. 5. Transfer stain -> Bloodstain resulting from contact between a blood-bearing surface and another surface. 6. Drip/Accompanying drop -> Bloodstain resulting from falling drop that formed due to gravity. Small blood drop produced as a by-product of drop formation. 7. Drip/Parent/Satellite stain -> Bloodstain resulting from falling drop that formed due to gravity. Bloodstain from which satellite stain originated. Smaller stain that originated during the formation of the parent stain as a result of blood impacting a surface.
2Y64LX-5602	A cast-off pattern resulting from blood drops released from an object due to its motion was

## TABLE 2 - Part 2: Recognition and Description

## Item 5, continued

WebCode-Test	Detailed Pattern Description
	deposited on the target surface of the white cardboard. A secondary drip stain resulting from a falling drop that formed due to gravity was then deposited onto the surface. Lastly an elongated item consistent with a possible knife handle and tip of blade was dropped onto the cardboard creating a transfer stain resulting from contact between a blood-bearing surface and another surface.
2Z438R-5601	<p>A. There are two transfer stains on the left side of the photo. a. One transfer stain is a rectangular-shaped stain with curved corners. The stain is approximately 2 cm wide and 8.5 cm long. The stain is diagonal across the photo with the lower end 16.5 from the top and 3 cm from the left side and the upper end 9.5 cm from the top and 7.5 cm from the left side. The top half of this stain has a heavier deposit of blood. There is a circular void 2 mm in diameter toward the lower end of the stain. b. The other transfer stain is triangular-shaped with curved corners. The stain is 1 cm long from tip to base and approximately 7 mm wide at its midpoint. The center of the stain is approximately 2 cm from the top and 14 cm from the left side. B. There are three drip stains in the photo. All three stains exhibit scalloped edges. a. There is a 1.3 cm diameter circular drip stain left of the rectangular- shaped transfer stain near the left edge of the photo. b. There is a 1.5 cm circular drip stain above the rectangular-shaped transfer stain and to the left of the triangular-shaped transfer stain. Left of the drip stain are three satellite spatter stains with directionality back toward the parent stain. Right of the drip stain is a fourth possible satellite spatter stain. All four satellite spatter stains are sub-millimeter. c. There is a 1.3 cm diameter near-circular drip stain to the right of the rectangular-shaped transfer stain and below the triangular-shaped transfer stain. There are two spines radiating out from the parent drip stain. Above the parent drip stain is a 3 mm wide by 7 mm long elliptical satellite spatter stain with directionality back toward the parent drip stain. C. There are two linear spatter patterns consistent with cast-off in the photo. a. There are approximately 20+ near-circular spatter stains oriented in a linear arrangement from the bottom left of the photo to the upper right. The largest spatter stain is 4 mm in diameter and the smallest is less than 0.5 mm in diameter. The stains toward the bottom of the photo exhibit a slightly more elliptical shape than those toward the top. There is a small elliptical stain (less than 0.5 mm wide) within this pattern with directionality which does not fit and does not appear to be a satellite stain from one of the drip stains. b. There are approximately 30+ near-circular spatter stains oriented in a linear arrangement from the left of the photo to the right. There is a slight downward curvature of the linear arrangement on the right side. The largest spatter stain is 4 mm in diameter and the smallest is less than 0.5 mm in diameter. The stains toward the left of the photo exhibit a slightly more elliptical shape than those toward the right. c. The two cast-off patterns intersect each other roughly in the center of the photo.</p>
32EBPQ-5601	This is a complex bloodstain pattern consisting of: (A): Two (2) transfer stains resulting from contact between a blood-bearing surface (possibly a knife) and another surface (white cardboard). The possibility that the two stains were created by one (1) object cannot be excluded. (B): Three (3) drip stains, resulting from falling that formed due to gravity. (C): Two (2) criss-crossing drip trail sets, resulting from movement of a source or sources of drip stains between two points. (D): One (1) satellite stain that originated during the formation of a parent stain (one of the drip stains in (B)) as a result of blood impacting a surface (carton).
33RZUN-5605	small circular stains approx 0.1 mm to 4 mm diameter in size arranged in two intersecting lines, consistent with a minimum of two drip trails. Cannot rule out minimum of two cast-off patterns. Three circular stains approximately 15 mm in diameter, uniform slight spinning around the perimeter, consistent with drip stains. One rectangular stain approximately 70 mm x 17 mm has defined perimeter/shape consistent with a transfer stain
34MG98-5601	3 drip stains are present. The drip stain located in the middle left of the image measures approximately 14mm in diameter. The drip stain located in the upper left corner of the image measures approximately 14mm in diameter. The drip stain located in the lower middle of the image measures approximately 14mm x 12mm. Each of the drip stains have accompanying

## TABLE 2 - Part 2: Recognition and Description

**Item 5, continued**

WebCode-Test	Detailed Pattern Description
	drops. There are several cast off patterns located in the image which appear to intersect in the center of the image. Stains range in size from approximately .5mm to approximately 5mm in diameter. There is a transfer stain located in the left side of the image which measures approximately 8.7cm in length x 2cm at it's widest point. There appears to be a larger concentration of blood on the left side of the stain. There is one stain located in the top center of the image which measures approximately 13mm in length by approximately 9mm at its widest point.
36UZQF-5601	On the left is a transfer stain in the form of a handle. At the upper edge to the center is a transfer stain. In the form of a triangle. Probably these two transfer traces belong together and the shape of the object together and the shape of the object points to a knife. In the area of the image center to the left edge are three drip stain. Two lines with spatter stains form an "X". This "X" pattern was created only after removing the previously described object "knife". This is to be seen on the dried edges of the edges of the two patterns, which are clearly separated. Information about the time difference between the two patterns is not possible since neither the the temperature of the underground nor the room temperature are known.
36VTRU-5601	There are three (3) drips stains on the center/left side of the target. There is a transfer stain on the left side of the target. There are cast-off patterns going horizontally and vertically across the target.
3BFVRJ-5601	Drip stains: ~1 mm diameter, round, stains located at ~9, 11, and 5 o'clock positions from the photo centre Transfer stain: ~9cm long x 2cm wide. Stain is heavier on the left side. There are two small Voids within the transfer stain, one in the bottom centre and one on the top left side edge. There are two bloodstain patterns consistent with cast-off. One stretches side-to-side at a slight diagonal and the other up and down across the photo at a slight angle. These patterns consist of multiple round stains ranging in size from minute to ~2mm-5mm diameters. The transfer stain overlays a portion of the side-to-side cast-off stain. Another bloodstain in located at the top center of the photo. This stain is not part of another pattern and does not have any defining edge characteristics. Another elliptical bloodstain is located near where the two cast-off patterns cross in the approximate centre of the photo.
3CCC72-5602	1. Two transfer stains from one object to another in which a recognizable image or characteristics can be possibly present in the pattern. 2. Two drip trails which cross to each other resulting from the movement of a blood source between two points. 3. Three drip stains as the results blood dropping from the source. 4. One satellite stain which originates from one of the drip stains.
3G9VC7-5602	Pattern 5-1 is a transfer pattern. The shape is consistent with being produced by the handle and tip of a knife. However other possibilities cannot be ruled out. Pattern 5-2 is a drip stain. Pattern 5-3 is a drip stain. Pattern 5-4 is a linear spatter pattern. Pattern 5-5 is a linear spatter pattern. Pattern 5-6 is a drip stain with suspected alteration. The alteration mechanism could not be determined. Pattern 5-7 is a spatter stain with directionality from approximately 5 o'clock to 11 o'clock relative to the orientation of this photograph. No further information regarding the mechanism which produced this stain could be determined.
3P29AK-5602	There is a possible drip pattern that appears to be linear, approximately midway up the image that is basically horizontal across the center of the image. Another possible linear drip pattern is also present in the bottom left corner of the image. This pattern is diagonal up and to the right from the lower left corner of the image. In the left side of the image there is a possible transfer stain that may have been caused by some type of blood covered handle being placed on the target. There appears to be three large drip stains; one on the left side of the image, one near the top left of the image and one near the bottom/center portion of the image. There is a small triangular shaped stain in the upper center of the image that may be a possible transfer stain that could be associated with the previously described transfer pattern.

## TABLE 2 - Part 2: Recognition and Description

## Item 5, continued

WebCode-Test	Detailed Pattern Description
3PJFBV-5601	A transfer stain was observed on the left side of the target. Drip stains with associated satellite stains were observed on the target. Cast-off patterns with associated satellite stains were observed across the target.
3PYLQL-5601	I observed two cast-off patterns on the target; one, roughly, horizontal and the other vertical as seen on the target. There are three drip stains, each greater than 12mm in diameter. On the left hand side of the target, I observed an apparent transfer stain.
4BCV4N-5605	There are 2 or more linear patterns of bloodstains that crisscross near the center of the white cardboard. The bloodstains in these patterns range from < 1mm to > 15mm in width, length, and diameter. The majority of the bloodstains appear to be round or near round in shape. The directionality for these bloodstains is undetermined. The characteristics exhibited by these bloodstains is consistent with those of a cast-off pattern. There are 3 bloodstains with diameters > 10mm. Two are on the left side of the white cardboard (when facing the image) and 1 on the lower center of the white cardboard. All 3 bloodstains appear to have a slight elongation to their shapes. The characteristics exhibited by these bloodstains are consistent with those of a drip stain. There is a long narrow bloodstain on the left side of the white cardboard which has a more concentrated deposition of blood along the left edge of the bloodstain. There is a circular area near the lower end of the bloodstain that is not stained with blood. The bloodstain is approximately 86mm long and 20mm wide at its widest point. The characteristics exhibited by this bloodstain are consistent with those of a transfer stain.
4CTXY4-5601	Bloodstains consistent with being created by cast-off were observed. Two (2) in-line patterns consisting of stains, similar in size and shape, crossed near the center of the target. Also, three (3) circular stains approximately 15mm in size were observed and consistent with being passive drips. A transfer stain was observed measuring approximately 3 1/2" x 3/4" with regular edges. On the left side of the target.
4F9KKV-5602	Item 5 contains multiple bloodstains. Scales runs partially along the top and left side of the bloodstained area. There are three drip stains. All three have scalloped edges and appear to have impacted orthogonally. One contains two spines, one of which resulted in a satellite stain. The diameters and locations are as follows: The first drip stain measures approximately 13.8mm in diameter with a center alignment of 10mm on the top scale and 129mm on the side scale. The second drip stain measures approximately 13.3mm in diameter with a center alignment of 163mm on the top scale and 162mm on the side scale. Considering the top of the area to be 360 degrees then the satellite stain lies on a heading of 335 degrees and is located approximately 36mm from the center of the parent stain. The third drip stain measures approximately 15.18mm in diameter with a center alignment of 78mm on the top scale and 39mm on the side scale. On the left side of the area is transfer stain measuring approximately 19mm wide and 42mm long. The stain lies on a diagonal angle of approximately 30 degrees and the top center point aligns at 75mm on the top scale and the bottom center point aligns at 168mm on the side scale. A larger volume of blood is present on the left side of the stain indicating that the object that created this stain moved or rotated to the left prior to being lifted from the surface. Two void appear within the stain, one on the left side near the top and another in the center near the bottom. Both voids have irregular edges and neither stain appears to have been created and air bubble. Near the top of the area and in line with the transfer stain described above is a smaller irregular shaped transfer stain. This stain measures approximately 7.8mm wide and 8.2mm in length with the center aligning with the 143mm mark on the top scale and the 14mm mark on the side scale. This stain has somewhat of an upside down heart shape and is possibly a continuation of the larger transfer stain. There are at least two and possibly four cast-off patterns in the bloodstained area. Two appear to parallel each other in a slight arch from near the top right side to the center with the second continuing toward the bottom. Another cast-off stain traverses the wide of the area on a slight diagonal through the center of the area and crossing the two parallel castoffs. Another smaller and shorter pattern is located above the long one and meets the other in the center. None of the individual drops that

## TABLE 2 - Part 2: Recognition and Description

## Item 5, continued

WebCode-Test	Detailed Pattern Description
4LUA8Q-5605	<p>make up these patterns show directionality and appear to have impacted the surface near orthogonally.</p> <p>Item 5 consists of three patterns on a piece of cardboard in the horizontal plane. The first recognizable pattern consists of 3 approximately circular stains, with ruffled edges, ranging from approximately 0.9 cm to 1.1 cm. The stains do not form a line or trail connecting point A to point B. The shapes of the stains are consistent with the blood striking the cardboard perpendicularly/at an angle of approximately 90 degrees. They are consistent with being drip stains. Two of the three drip stains also have spines and satellite stains associated with them. The majority of the satellite stains that are present are small and radiate out and away from the drip stains. There is also a spatter stain near the approximate center of the photo. It has clear direction and may or may not be associated with the drip stain below it in the photo. The second pattern is a large, irregularly shaped stain on the left (as facing) side of the photo. The right edge and bottom of the stain is lighter in color compared to the rest of the stain. This lighter portion of the stain is consistent with a serum stain resulting from the blood clotting and the serum separating into the cardboard since it is an absorbent surface. The portions of this stain that are opaque result from a heavier deposition of blood and display cracking on the surface. I do not see any pattern (e.g. knit stitches) or creases within the stain, but it has a distinct shape and does not have motion or direction associated with it. This stain is consistent with being a transfer stain. Some object, with blood on its surface, made contact with the cardboard. Blood transferred from the object to the cardboard before the object was removed. There are also small spatter stains near the transfer stain. These spatter stains are small and vary in size, and some of the stains resemble bubble rings. The pattern present is not consistent with an expiration pattern, so I suspect these may be an artifact of the pattern creation. The third pattern in Item 5 is an "X" shaped pattern made of two linear groups of spatter stains. The spatter stains vary in size and range from approximately 4 mm to approximately 1 mm. The stains making up the "X" are approximately circular and indicate that the blood hit the surface at approximately 90 degrees. These linear groupings of spatter stains are consistent with being cast off patterns.</p>
4TUUAL-5601	<p>Three large drip stains which appear to have hit perpendicularly and two of which have satellite stains. Transfer stain (possibly from kitchen knife handle with tip further along paper). Cast- off pattern</p>
4ZH9L9-5602	<p>To the left there are three circular drip stains which are about 15 mm in diameter. To the left there is also a rectangular transfer stain with a length and width of about 90x20 mm. In the upper part of the picture there ´s another smaller transfer stain. The two transfer stains could have been made at the same time and with the same object, though they may be transfer stains from two different objects and/or made at two different occasions. Across the picture there are two linear groups of spatter stains. The stains are up to 5 mm in diameter and almost circular. They can be explained by cast-offs and/or cessation cast-offs. Due to the circular form of the spatter stains the directionality of movement (from left to right or right to left, and from up and down or down and up) can not be determind.</p>
694T3Q-5601	<p>There are two lines of spatter stains which obviously are cast off patterns. One is in direction from right to left and a bit upwards towards the left side. The other one is from right to left and downwards towards the left down corner. Then there are two single drip stains and a third (drip) stain which likely is a drip pattern as it seems that there a drip stain has fallen to an already existing drip stain. Then on the left side there is a transfer pattern coming from a contact of a bloody object. in this case the object could have been a knife the bloody handle of which has touched the surface and also the bloody tip of the object (blade of knife).</p>
6G3D77-5601	<p>Item 5 consists of multiple pattern types. The largest stain is linear with defined edges with some of the edges being curved. This stain appears to be a transfer pattern. Approximately 10 cm from this stain, there is a somewhat triangular shaped stain measuring approximately 1 X 0.5 cm. There are three round bloodstains with scalloped edges. One of these has a few spines</p>

## TABLE 2 - Part 2: Recognition and Description

## Item 5, continued

WebCode-Test	Detailed Pattern Description
6KF7BD-5601	<p>protruding from the edge. These three stains measure approximately 1.3 to 1.5 cm in diameter and are identified as drip stains. There are two intersecting areas each with a linear distribution of round stains measuring approximately 0.5 mm or less. These appear to be spatter stains. The linear distribution is characteristic of a cast off pattern.</p> <p>IN THIS CASE THE BLOODPATERN I FOUND ARE, BLOODSTAIN, BLOODSTAIN PATTERN, DIRECTIONALYTI, DRIP PATTERN, DRIP STAIN, PRESENT INSECT SATIN AN I SEE SATELLITE STAIN TOO.</p>
6R2962-5602	<p>There are drip stains located on the left side of the photograph and one additional drip stain near the center of the photograph. There is also a transfer pattern located on the left side of the photograph with a possible transfer pattern at the top of the photograph. These two patterns could be associated with one another and may have been transferred from the same object. There are numerous smaller blood drops forming two linear shaped patterns that appear to be cast-off from an object.</p>
6U4YKP-5601	<p>Transfer stain, drip stain, parent/satellite stains, cessation cast-off</p>
72JCP7-5601	<p>A transfer bloodstain possibly from a handle of a knife is located on the left side of the cardboard. An accompanying small transfer bloodstain is located above the possible handle bloodstain which could possibly be from the tip of a knife blade. There are two cast-off bloodstain patterns present. One cast-off bloodstain pattern with a possible source motion of right to left is oriented below right centre to above left centre and crosses one end of the possible handle transfer bloodstain. The other cast-off bloodstain pattern is oriented from bottom left to upper right and crosses the other cast-off bloodstain pattern. No direction of motion for the source of this cast-off bloodstain pattern could be determined. Two drip bloodstains are located to the left of the possible handle transfer bloodstain and one drip bloodstain with a satellite bloodstain is located to the right of the possible handle transfer bloodstain.</p>
77WXVR-5602	<p>One transfer stain and one possibly associated bloodstain. Three drip stains and two intersecting cast-off patterns.</p>
794D3X-5602	<p>Target includes multiple circular stains; most are smaller stains that range in size from less than 1 mm to 5 mm although predominately 3-4 mm. These have a linear distribution across from side to side and also top and bottom of the target and have similar angles of impact on to the target. These stains could be a drip trail or a cast off pattern. There are three larger circular drip stains that are 13-14mm, 13mm, and 15 mm in size. To the left of the target is an irregular, rectangular shaped stain that measures 8.5 x 2 cm in size that is consistent with a transfer pattern.</p>
7BP47N-5605	<p>The photo shows multiple circular (round) stains dispersed across the image. Three of the circular stains are distinctly larger than the rest. There is also a roughly rectangular stain in the lower left area of the photo and an irregular triangular shaped stain near the top middle of the photo. The three larger circular stains are approximately the same size with diameters measuring 15 to 17 mm. They also have spinous edge characteristics that are fairly uniform in size around the perimeter. Two of these stains have smaller satellite stains originating out from the parent. These three stains are typical of drip stains. The smaller circular stains lie roughly along two lines across the target; one line is oriented bottom to top with a slant to the right and the other line lies left to right across the photo and slightly downward. The majority of the stains are between 3 and 5 mm, with some 2 mm and less. The majority of these have uniform spines around the periphery and satellite stains originating from the parent. Some of these stains along the left side of the photo are slightly elliptical in shape and have spines and satellite stains slightly more prominent on the left side of the stain than the right. The description that best fit these two stains are castoff bloodstain patterns. There is also a roughly rectangular stain in the lower left area of the photo and an irregular triangular shaped stain. Both stains have a smooth (non-spinous) edge characteristic. The rectangular stain is heavier along the top edge typical of capillary action.</p>

## TABLE 2 - Part 2: Recognition and Description

## Item 5, continued

WebCode-Test	Detailed Pattern Description
	These two stains are typical of a transfer stains.
7CY9LX-5602	Drip Stain -> A blood stain resulting from a falling drop that formed due to gravity. Drip trail -> A bloodstain pattern resulting from movement of a surface of dripstains between two points. Transfer stain -> A bloodstain resulting from a contact between a blood-bearing surface and another surface & in this case it was a knife and a tip of blade that tranfered blood. Void -> an absence of blood in a otherwise continuous bloodstain or bloodstain pattern; in this case the blade did not touch the blood hence there is a void between the handle of a knife and a tip of the blade.
7ERZX4-5602	Item 5 was examined and bloodstains were found deposited onto a white cardboard in the horizontal plane. a) Three approximately circular stains with spiny projections measuring between 13 mm and 15 mm in diameter. Near one of these stains, there was an elliptical stain measuring 5 mm by 3 mm showing directionality towards the top side of the target. These stains could be drip stains or "drip cast-off" (drop released from an object with some movement). b) Two cast-off patterns consisting of approximately circular bloodstains. These stains ranged from less than 1 mm to 4 mm in diameter. One pattern was between the right and left sides of the target. The other was approximately diagonally between the top and bottom sides of the target. c) A transfer stain measuring 8.8 cm by 2.1 cm. d) A transfer stain measuring 1 cm by 1 cm, possibly related to the previous transfer stain.
7JMR8L-5601	There appears to be a minimum of two cast-off bloodstain patterns. The cast-off patterns ran linear making a crisscross on the cardboard with mostly circular bloodstains that ranged in size from sub-millimeter to 5mm. One of the cast-off patterns ran diagonally across the cardboard with at least 22 near circular bloodstains and was approximately 28cm in length. The other cast-off pattern ran mostly horizontal across the cardboard with at least 15 near circular bloodstains and was approximately 33.5cm in length. There were three drip bloodstains that ranged in size from approximately 12mm to 15mm and were near circular in shape. One of the drip bloodstains had an elliptical shaped satellite bloodstain just above it that was approximately 6mm by 4mm and appeared to have an upward directionality. There was an apparent transfer bloodstain that was approximately 8.5cm long and 2.5cm wide on the left side of the cardboard. There was a possible second transfer bloodstain that was irregular shaped (somewhat triangular) and was 1cm by 0.75cm that was to the right of the upper left drip stain.
7JQ6ZN-5601	>25 near-circular spatter stains in two linear arrangements (one spanning the top to the bottom of the photo and the other from one side to the other). Size range approx. <1-5mm in diameter. Discrete margins/edges. the majority of these stains appear to have impacted the target surface at a approx. 90 degree angle. Possibly cast-off patterns. One irregular shape transfer stain on the left side of the photo. Discrete margins/edges, some areas of the staining are lighter in colour. A second irregular shape possible transfer stain on the upper of the photo. Discrete margins/edges. Three near-circular drip stains(one near upper, one near lower and one on the left. Approx. 15mm in diameter, discrete margins/edges. Some satellite stains are present.
7L8JDW-5602	Three(3) drip stains with one of the stains being a parent stain from which a satellite stain originated. Transfer pattern from possible knife and knife blade and two (2) cast off pattern linear and crossing.
7W7JLU-5605	Three major components were observed in the item 5 bloodstain pattern. The first component consisted primarily of two crossing drip trails. The second component is comprised of three individual drip stains. One of the three drip stains had an associated satellite stain. No pattern could be ascribed to the drip stains. The third component is comprised of two transfer stains. The smaller transfer stain is roughly triangular shaped, approximately half an inch long, and approximately one-third of an inch wide. The larger transfer stain is roughly rectangular shaped, slightly more than three-quarters of an inch wide, and slightly less than three and one-half inches long. Taken together the transfer stains have the appearance of a knife; the actual source of the transfer stains may be an object or objects other than a knife. The larger transfer stain has the



## TABLE 2 - Part 2: Recognition and Description

## Item 5, continued

WebCode-Test	Detailed Pattern Description
	general appearance of a handle and the smaller stain's appearance is consistent with a knife blade tip; the remaining portion of the suspected knife blade did not leave a transfer stain.
7WN88V-5601	1) Three drip stains measuring approximately 12 to 14 mm in size. Two satellite stains were observed on one of the drip stains. 2) Two cast off patterns, one extending diagonally from the upper right area to the bottom left area, the other from the bottom right area to the central left area. 3) Two transfer stains near the ruler, resulting from contact with a bloodstained object. The larger stain measured approximately 8.6 cm by 2 cm in size. The small trilobal-shaped stain was located about 9.8 cm from the upper edge of the larger transfer stain. 4) A small 2-mm void was observed on the larger transfer stain.
84M843-5602	3 drip stains 1 (1.2 x 0.4 cm) transfer stain 1 (2.0 x 8.5 cm) transfer stain 2 cast-off patterns
8CZ7RM-5605	Item 5: Photograph (TIF file) of blood spatter pattern. It has the following features: Three single drops that are orthogonal to the target plane. Each drop is ~12mm to 15mm in diameter. All have scalloped edges. One of the three drops has a small satellite drop (~3mm by 8mm) that is approximately 35mm from edge of its parent stain. Oblong transfer stain, ~ 85mm by 200mm. A small (~3mm by 3mm) void is located at one end. There are two trails of relatively small circular blood drops. One trail goes roughly left-right and the other goes roughly up-down. On both trails the majority of drops are around 3mm to 5mm in diameter. Some smaller drops down to ~1mm in diameter are also present. These two trails are consistent with cast off patterns.
8K79TD-5602	On the left side of the white board, a diagonal strip of transfer stain is visible, where the bloodstains are light and should be Diluted bloodstain. Depending on the shape of the blood, it is possible that the tool holder has been placed here ; Another triangular Transfer stain can be seen In the middle of height. There are three rounded drip stains respectively on the left side of diagonal strip of transfer stain, in the upper left corner of the board and below the middle of the board. The one on the left side of the transfer stain can be judged from the left to the right from its Edge Characteristic. The Spatter bloodstains from the drip strain below the middle of the board show their falling from the height. A white vertical linear Void is visible on the drip strain of the upper left corner of the board and the diagonal strip of transfer stain, and it is inferred that the white plate has been folded. There are two Cast-off bloodstain in the middle of the cardboard that cross each other, the dim color suggests it is diluted bloodstain, part of the blood covered the diagonal strip of transfer stain, so forming a later time, this two Cast-off bloodstain can be formed by bouncing Finger.
8L72UR-5601	Item 5 depicts numerous stains on a horizontal piece of white cardboard. The largest stain is consistent with a transfer stain. A triangular shaped transfer stain located approximately 4 cm above the large stain may be associated with it. Three large circular stains consistent with drip stains were observed on either side of and above the largest transfer stain. Two areas of small stains organized in a linear nature were observed; one travelling horizontally across the image, and the other travelling vertically between the bottom left and top right corners of the image. These stains are consistent with cast-off stains.
8T6RWU-5602	On this target I observed drip trails that were crossing at each other. I also observed drip stains as well as pattern transfer possibly a knife with its blade opened causing a void and bloodstain of tip of the knife.
969HAL-5601	There is a Drip stain which a bloodstain resulting from a falling drop are formed due to gravity; it demonstrate generally large volumes and random orientaited. Bloodstain Pattern there is a distribute of bloodstains that indicate a repetitive form, order, or arrangement the manner in which the pattern was deposited. Smear there is accumulation of blood on the other boundaries and diminished volume of blood across the body of the stain and also displacement of blood. There is also a void that means there is an absence of blood in a continous bloodstain.
98ZCDH-5602	The image consisted of three drip stains (between approximately 1cm and 1.5cm), a transfer

## TABLE 2 - Part 2: Recognition and Description

**Item 5, continued**

WebCode-Test	Detailed Pattern Description
	stain (8.5cm X 2cm), an irregular shaped indeterminate bloodstain (2cm X 1.5cm), and several indeterminate bloodstains that were mostly circular and mostly between 2mm and 4mm.
99BJAJ-5602	This is a complex pattern consisting of a transfer stain, two drip trails intersecting but following opposing directions. There are two drip stains in proximity of the transfer stain. A parent stain with satellite stain further away from the transfer stain and closer to the second drip trail.
9EG3GN-5601	There are three (3) drip stains on the target. The drips stains are roughly round and approximately 1.5 cm in diameter. There are at least two (2) cast-off patterns that crisscross the target left and right and top and bottom. Finally, there is a transfer stain on the left side of the target where the lower portion of the transfer appears to be in the shape of a knife handle. The remainder of the transfer stain, an approximately 8 mm by 11 mm triangular shaped stain, is found near the top middle of the target and may have been made by the tip of a knife.
9N9JAY-5601	Transfer stain. Drip trails. Drip stains.
9ZG8JW-5602	One transfer stain measuring approximately 3cm wide x 9cm long. A second transfer in the same line as the first is approximately 18cm away. Likely that both are transfer from the same object with a total length of 27cm. Possible impression of a knife. Several other circular to elliptical stains are on other areas of the target. Three larger stains are circular and measure approximately 1.4cm. These stains are consistent with drip stains. Other smaller stains on the target with most measuring .2 to .4cm and are distributed in two approximately linear distributions. Stains are primarily circular to slightly elliptical. Consistent with at least two cast-off patterns.
9ZHYEJ-5602	Two transfer stains located in the upper left corner of the target that appear to be associated with one another. One of these stains appears to be the handle of a knife, the other, the tip of the knife's blade. A minimum of two cast-off patterns intersect one another near the center of the target. Three drip stains are also present on the target.
A4DCDT-5601	There are 3 blood patterns within this item. On the left side of the photo, there is a transfer stain caused by a blood stained object being in contact with the surface. Three large blood spots have been formed by blood drops falling under gravity and are therefore drip stains. The smaller blood spots have been formed by blood drops falling under gravity whilst the blood source was in motion- these blood spots form two distinct linear patterns which intersect near the centre of the photo and are therefore drip trails.
A7692M-5601	There are three (3) drips stains on the target surface. A transfer stain is present on the left side of the target. Cast-off patterns are present between the left and right edges and between the lower left corner and the upper right corner.
AA4HA3-5601	A transfer stain with elongated shape was found at the lower left side of the cardboard. Three circular drip stains each with diameter >10mm and forming a triangular shape were respectively found at the lower left side, upper left side and lower middle of the cardboard. Cast-off patterns forming a cross "X" were found at the center of the cardboard.
ABF7MN-5602	There is bloodstain pattern - a grouping of bloodstains that indicates through regular or repetitive form, order, or arrangement the manner in which pattern was deposited. There is also drip stain - a bloodstain resulting from a falling drop that formed due to gravity. There is also wipe pattern - an altered bloodstain patter resulting from an object moving through a preexisting wet bloodstain
ADP68W-5601	Observed near left hand side of target, measuring approximately 1.5cm x 8.5cm is a stain consistent with a transfer stain. Three roughly circular stains measuring approximately 13-14mm were observed, consistent with drip stain. Approximately 50 roughly circular stains were observed in 2 linear formations, consistent with cast-off stains. Stains range from approximately 1mm to 4mm.

TABLE 2 - Part 2: Recognition and Description

**Item 5, continued**

WebCode-Test	Detailed Pattern Description
AEGC6E-5601	The target consists of 2 cast-off patterns, one traveling across the page and the second traveling up/down the page. The cast-off patterns cross in the middle of the target. Two transfer stains are on the target with a small circular void in the lower portion of the larger stain. Finally, 3 drip stains form a triangle around the larger transfer stain, with several smaller satellite stains formed from the drip stains.
AHRMVN-5602	A) Drip stains / drip pattern - some satellite stains observed originating from some of the drips (parent stain). B) Transfer stains - rectangular shaped stain & triangular shaped stain. Possibly a blood stained handle and blood stained tip - possible knife. C) Cast off - some linearity & indication of linearity to cast off pattern.
ANLHYG-5605	3 drip stains were observed on the target, at least one of which had several satellite stains; one transfer stain was observed on the target that appeared to have a void toward the bottom center portion of the stain; two cast-off patterns were observed on the target
B2RNV2-5601	A transfer pattern was found on the left hand side, surrounded by three drip stains with the size of approximately 1.5 cm in diameter. Two groups of cast off pattern with no indication of directionality were also found, with one of them across the white cardboard horizontally, and another one across the cardboard from top right to bottom left, forming a cross at the center of the cardboard.
B3XA2D-5601	Drip trail: a bloodstain pattern resulting from the movement of a source of drip stains between two points. (2 drip trails present: 1 drip trail is parallel to right side transfer stain, 1 drip trail is perpendicular to transfer stain running through it. The drip trails intersect close to middle of cardboard.) Drip Stain: a bloodstain resulting from a falling drop that formed due to gravity. (3 large drip stains: 2 stains within 5cm of transfer stain to left, 1 stain more than 10cm away from transfer stain to the right with a satellite stain.) Transfer stain: a bloodstain resulting from contact between a blood-bearing surface and another surface. (Blood soaked object placed on cardboard with a void in the middle, possibly a knife or other tool). Void: An absence of blood in an otherwise continuous bloodstain or bloodstain pattern. (
B9MWTD-5601	The target area contained multiple drip stains. At the left, center, area of the target a transfer stain is observed. The transfer stain appeared to be deposited by an object such as a knife due to the edge characteristics of the larger transfer stain. There was also a bloodstain with abnormal characteristics at the top center of the target area and in line with the previously mentioned transfer stain. There were also two possible cast off patterns one going from side to side and the other going from top to bottom of the target.
BC33R8-5605	Item in #6 consists of three drip stains that form a triangle near the left side of the photo. There are two cast-off patterns that cross near the center of the image and at the top center of the image are two transfer stains. A long narrow stain on the left and a triangle shaped stain at the top center. These stains indicate that a bloodied object, possibly a knife has been removed from this position. The long transfer stain at the left of the image and the drip stain at the top of the page appear to have been altered by the straight thin edge of an object that seems to have left a transfer stain from the top to the bottom of the image. This could also be the result of an imperfection in the target surface as it is difficult to determine in the photo
BEAME9-5602	Item 5 shows transferred stains (the biggest stain, to the left,) and this stain is also diluted. There are also 3 large drip stain, with some satellitt from these. In the middle we can see a lot of small drip stain, and probably it is cast-off in two directions. In the upper area probably we can see a altered stain.
BGF839-5601	Multiple overlying patterns; drips with satellite stains; drip trail horizontally across tile and diagonally left to upper right; elongated transfer stain with voids; accompanying spots present; some spots / drips exhibit directionality indicating deposition other than at ninety degrees to the target surface.

## TABLE 2 - Part 2: Recognition and Description

## Item 5, continued

WebCode-Test	Detailed Pattern Description
BHQZ2G-5601	There is a transfer pattern in the left side of the target that reaches to a tip with a void area between the left side and tip. There are at least two cast-off patterns on the target. One going horizontal and one going diagonally through the target. There are also drip stains present and also some accompanying drops present.
C3D2LH-5601	I examined the bloodstain pattern in item 5 and observed the following patterns: There are three circular drip stains that are each approximately 15mm in diameter. These three stains are parent stains. There are smaller satellite stains that radiate outwards from the parent drip stains. There are two transfer stains. One is an elongated stain that is approximately 20mm wide by 85mm in length. The left side of the stain is darker and more concentrated than the right side the stain. The other one is a dark triangular shaped stain approximately 95mm from the elongated stain. Both of these stains appear to be static stains and don't show any movement. Based on the shape of the transfer stains, the elongated stain appears to have possibly been made by a bloody knife handle and the triangular stain appears to have possibly been made by a bloody knife blade tip. There is also a cast-off pattern. There are two linear lines of circular and slightly oval bloodstains that are less than 1 mm to 5mm in diameter. One line of bloodstains goes from the 4 o'clock position to the 9 o'clock position across the cardboard and the other line of bloodstains goes from the 1 o'clock position to 7 o'clock position across the cardboard.
C48MGU-5601	There are three patterns on item 5: (1) Cast-off pattern characterised by linear blood drops that are created when they are released from an object due to its motion. (2) Transfer stain, of a knife-like object, characterised by the shape of a knife handle and a tip of the blade made in blood. (3) Drip stains, one with a satellite stain, are formed when blood drop falls due to gravity, indicating a blood source is not moving.
CJZART-5602	Item 5- This pattern consists of three reddish-brown apparent drip stains, ranging in size from 1.3 centimeters to 1.5 centimeter in diameter. Two of these stains contain apparent elliptical satellite stains originating from the parent stains. All the drips stains appear to be close to 90 degree stains. There is an apparent transfer stain in the left hand side of the overall pattern. The major portion of the transfer stain measures approximately 8.7 centimeters long by 2 centimeters wide at its widest point. The overall transfer stain contains a void of reddish-brown stain between one end and the other, but covers a total length of approximately 19.2 centimeters. The transfer stain appears to be a transfer of a knife. There are two linear patterns, which appear to be cast-off patterns, one pattern from the far mid-left side to the far lower right side, and the other pattern from the upper right side to the lower left side. These patterns consist of approximately 90 degree stains with satellite stains from a majority of the stains, sizes ranging from approximately 1 millimeter to 5 millimeters in diameter.
CPQQZC-5601	I observed two cast off patterns crossing through the center of the plane. A transfer pattern is observed on the left of the plane along with three random drip stains at the top, left and center of the plane.
CVX4BH-5605	There were three blood patterns on the cardboard. The first pattern consisted of two lines of small circular blood stains. The individual blood stains were mostly 3-4 millimetres in diameter. The lines of blood were created when blood was cast from a moving and bloodied object or objects whilst they were in two different positions. The cast-off patterns formed a cross shape. Associated with the cast-off patterns were three dripped blood stains, that were approximately 1.4 centimetres in diameter. Satellite spatter originating from both blood patterns were present. An oblong-shaped transfer stain, which measured approximately 2 by 8.5 centimetres, intersected one section of the cast-off pattern. There was a further blood stain that appeared to align with transfer stain.
CXJRN3-5602	Three large drip stains are present in different areas of the image, all of which have minimally scalloped edges and spines/satellite spatter. Spanning across the entire image are two cast-off stains, characterized by their overall linear distribution of relatively small and numerous individual

## TABLE 2 - Part 2: Recognition and Description

**Item 5, continued**

WebCode-Test	Detailed Pattern Description
	<p>stains. One of the cast-off patterns appears generally horizontal in the image, and the second cast-off pattern is generally vertical in the image. A transfer pattern is also present on the left side of the image, composed of a rectangularly-shaped object with defined edges and a small triangle set apart from the top edge of the rectangle. The combination is similar to what is expected from the placement of a bloody knife on a clean surface, where the handle produces a rectangular shape and the knife tip creates a small triangle.</p>
CYDHTW-5602	<p>Cast-off patterns crisscross the main pattern area. The bloodstains are smaller with little directionality and are in a linear pattern. A contact transfer bloodstain was near the left side of the photo and exhibits a heavy area of blood staining on the upper left edge. A second contact transfer bloodstain is to the upper right of this stain. Three passive drip stains were in the main pattern area. The stains had scalloped edges with some perimeter stains. The drip stain near the lower area of the photo had two spines with a perimeter stain, with directionality upward and to the left.</p>
D3TGGB-5601	<p>A transfer stain (possible knife handle) is noted at the left side of the target. Three large drip stains are noted, along with two possible cast-off stains (one vertical, one horizontal) noted in the middle of the target. Possible expired stains were also noted.</p>
D4NXT8-5605	<p>Descriptions of the patterns/stains observed are as follows. A generally rectangular transfer stain approximately 2.0cmx8.5cm is observed towards the left side of the image. There is a 0.25cm "D" shaped void within this stain. There are three drip stains ranging from 1.3cm to 1.6cm which are located in the lower center, left center and upper left areas of the image. The lower center stain has an associated satellite stain to the upper left of the parent stain. A fourth distorted (triangular) drip stain 0.8cmx1.2cmx1.2cm is observed in the upper center area. The majority of the stains in the image are cast-off pattern stains ranging from 2mm to 5mm. These stains appear to create a crossing pattern with one axis lying in the 10 o'clock/4 o'clock line and the other in a 1 o'clock/ 7 o'clock line. There are a few drip stains which may either indicate a third line in the 9 o'clock/3 o'clock orientation or they could be outlier stains from the other two lines. The intersection of these lines is near the center of the image. The size of the stains and the shape of this pattern indicate movement by the source along those lines. No directionality is observed in these stains however, some elongation was noted in the stains on the left edge of the pattern. This pattern may have been created by a swinging bloody object which is not close to the target or the extreme ends of the pattern are not shown in the image. Nearly all of the stains have a scalloped edge characteristic, which is most likely due to the texture of the cardboard target surface. Several extremely small stains (&lt; 1 mm) were noted; some appear to show some directionality, however no discernable pattern was observed.</p>
D7BU4J-5601	<p>Two (2) cast-off patterns were noted as present vertically and horizontally through the center of the target. Three (3) drip stains with some associated satellite stains were noted as present in the center and left side of the target. A transfer stain was noted as present on the left side of the target.</p>
D7VBJL-5601	<p>A transfer stain was observed on the left side of the target. Drip stains were observed near the transfer stain. Cast-off patterns were observed across the target. Associated satellite stains were observed with the drips stains and cast-off patterns.</p>
D9EPMM-5601	<p>Cast-off patterns were noted on the target, spanning across the center of the target between the left edge and the right edge and spanning diagonally between the lower left and upper right areas. Three drip stains were observed, located on the far left edge, the upper left section, and just below the center of the target. Transfer stains were observed on the left side and top center area of the target.</p>
D9HW7H-5601	<p>Item 5 is a piece of white cardboard in the horizontal plane with a complex pattern consisting of the following: 1. Drip Trail top to bottom: Bloodstain pattern resulting from the movement of a source of drip stains between two points. 2. Drip/Accompanying drop: Bloodstain resulting from</p>

## TABLE 2 - Part 2: Recognition and Description

## Item 5, continued

WebCode-Test	Detailed Pattern Description
DPKWTC-5601	<p>falling drop that formed due to gravity. Small blood drop produced as a by-product of drop formation. 3. Pool: Bloodstain resulting from an accumulation of liquid blood on a surface. 4. Drip Trail right to left: Bloodstain pattern resulting from the movement of a source of drip stains between two points. 5. Transfer stain: Bloodstain resulting from contact between a blood-bearing surface and another surface. 6. Drip/Accompanying drop: Bloodstain resulting from falling drop that formed due to gravity. Small blood drop produced as a by-product of drop formation. 7. Drip/Parent/Satellite stain: Bloodstain resulting from falling drop that formed due to gravity. Bloodstain from which satellite stain originated. Smaller stain that originated during the formation of the parent stain as a result of blood impacting a surface. 8. Drip/Parent/Satellite stain: Bloodstain resulting from falling drop that formed due to gravity. Bloodstain from which satellite stain originated. Smaller stain that originated during the formation of the parent stain as a result of blood impacting a surface.</p>
DUJWMF-5601	<p>1) Bloodstain pattern in the form of a drip trail (x2), intersecting/crossing over each other. 2) 3 x drip stains, two of which show satellite stains. 3) Larger transfer stain and possible smaller transfer stain towards the top of the page.</p> <p>There were bloodstain patterns in the image (item 5) that could be grouped as three distinct types: There were three larger drip stains (~1.3 to 1.5 centimetres in diameter). Satellite stains were observed radiating out from these parent drip stains. There were at least 30 smaller drip stains (up to ~0.5 centimetres in diameter). These stains appeared to be placed in two linear patterns - one from left to right and the other from lower left to upper right. Satellite stains were observed radiating from the smaller drip stains. There were two transfer stains on the left side of the image. The larger of these stains had a linear shape and small rounded void in the lower portion of the stain. The smaller stain was in the upper portion of the image and was slightly triangular in appearance.</p>
DW388C-5601	<p>Area of bloodstaining including 3 large drips of blood with some satellite stains, including a large directional satellite bloodstain resulting from the drip on the lower right. Transfer bloodstain including small irregular shaped voids of blood at one end (bottom left) and top left edge. Drip pattern consisting of approximately 24 spots of blood between 3-5mm in diameter hitting surface at 90 degree angle. Approximately 12 spots of blood between 1-2mm in diameter hitting surface at 90 degree angle. Many further spots of blood &lt; 1mm in diameter hitting surface at 90 degree angle. One irregular shaped bloodstain approximately 10mm x 8mm - possibly multiple drips overlapping.</p>
DZ4BWE-5601	<p>Drip stains, some with spines, accompanying drops and or satellite stains. In- line small and medium 90 degree spots with minute accompanying spots and spines, all indicative of cast-off pattern. Some spots overlapping and different direction of lines indicative of more than one cast-off pattern. Transfer pattern of an implement eg. a knife with handle region followed by a void and then the tip area. This is indicative of blood present on the handle and tip regions of the implement being transferred onto the target surface.</p>
E2B4BD-5601	<p>Three drip stains are located in the left to central area. Two transfer stains exist in the left portion of the photograph. If the transfer stains are the result of a single object, then a void area is also present in the area between the two stains. Two cast off patterns exist. One cast off pattern runs across the photograph in the near horizontal orientation. The second cast off pattern runs in an angled vertical orientation.</p>
E9DWK9-5605	<p>The biggest stain on the cardboard is probably a transfer stain with the dimensions 19x86mm. Then there are three round drip stains of a size between 13 and 15mm. The impact angle is 90 degrees. The one drip stain on the lower right has two satellite stains in the direction of 11 o'clock. There is a small bloodstain with an almost triangular shape (in the middle, on top of the page) which could be a flow pattern. There are 2 drip trails with smaller drip stains of a size between 2 and 5mm. Their impact angle is 90 degrees. One trail is almost horizontal, the other leads from the upper right to the lower left (or the opposite). The whole cardboard is covered</p>

## TABLE 2 - Part 2: Recognition and Description

## Item 5, continued

WebCode-Test	Detailed Pattern Description
	with very small, high velocity blood stains or mist stains.
EBNRDR-5601	Several drip stains were noted on the horizontal cardboard measuring approximately 14-15mm some having short spines. They were located on the upper left corner, the left side and the bottom center. A transfer stain was located to the right of the left side drip stain. Many spatter stains were noted on the cardboard ranging in size from less than 1mm to 5mm. These stains were circular in shape and were deposited on the board in a linear orientation. These spatter stains are part of a possible cast-off pattern. With more information/larger picture to capture more of the spatter stains a further conclusion may be drawn.
ED9NWB-5602	Transfer pattern observed towards left edge. Possible knife handle with an additional transfer stain at top/center of image- possible knife tip. Drip stains observed- 3 main drips with scalloped edges- possibly from target surface (cardboard). Drip stains have accompanying satellite stains. Drip trail- at least 2 drip trails observed traversing image horizontally and vertically (btwn left corner to right corner). Stains within drip trail do not appear to indicate directionality.
EE3EYJ-5602	There are multiple drip bloodstains. Three of which have a more significant volume making them larger than the accompanying blood drops. On the left side of the target there appears to be a contact pattern consistent with a knife handle at one end and the knife tip at the other characterized by a triangular shape point.
EPHG6H-5601	Cast-off patterns are present across the target. Transfer stains are present on the left side of the target. Three drip stains are present on the left side and middle of the target.
EV8YKE-5601	Bloodstains on a cardboard lying on a floor. There are circular stains, one rectangular stain, one irregular shaped stain, and one elliptical shaped stain. There are 4 patterns present. Pattern A: Rectangular stain 87 mm by 20 mm. One margin is darker than the other. Almost regular margin. Center of stain is 159 mm down from top of page and 82 mm right of the left side of the page. TRANSFER STAIN. Pattern B: Approximately 20 circular stains. Range in size from < 1 mm in diameter to 4 mm in diameter. Pattern is 12.5 inches by 2.25 inches. Center of pattern is near center of page. Stains are mostly circular on the right side of the page, becoming somewhat elliptical on the left side of the page. CAST-OFF PATTERN. Pattern C: Approximately 15 circular stains and one elliptical stain (4 mm by 9 mm). Range in size from 1 mm in diameter to 5 mm in diameter. Pattern is 11 inches by 1.5 inches. Center of pattern is near center of page Stains are mostly circular on the top of the page, becoming somewhat elliptical on the bottom of the page. CAST-OFF PATTERN. Pattern D: 3 circular stains, ranging in size from 14 mm in diameter to 15 mm in diameter. Scalloped edges, spines, some satellite stains. Uniform color throughout stain. The 3 stains are centered at 5 inches right of the left side of the page and 5.25 inches below the top edge of the page. DRIP STAINS. Another transfer stain is located near the top center of the page. It is triangular shaped, 10 mm by 12 mm. It is centered at 6.75 inches right of the left side of the page and 2 inches below the top edge of the page.
EXRQPP-5601	(1) There are two X drip patterns that cross each other, meeting $\pm$ in the middle of cardboard. (2) Three large drip stains in the shape of a triangle. The bottom right drip has a spine/tail with satellite/secondary spatter. (3) A pattern transfer of a knife with the handle and point of the blade visible and the rest of the blade a void, knife is positioned with handle at left/bottom and blade point middle top of cardboard.
F7PUKE-5601	Three drip stains randomly distributed to mostly the left and centre of the photo; some with associated satellite spatter. Approximately 60 near-circular spattered stains (< 1-5mm; most ~4-5mm); most are distributed linearly in two directions (one was horizontal and the second was vertical but on a slight diagonal slope) - two possible cast-off patterns (possible; as there was only a part or a section of the pattern present). Transferred staining to the left of the photo, approximately 20x85mm, the transfer source unknown. There was also a transferred stain, 10x10mm, to the top of the photo. Note: There appears to be an uneven surface going through the left of the photo - through the right of the transfer, and the drip stain at the top - this uneven

## TABLE 2 - Part 2: Recognition and Description

## Item 5, continued

WebCode-Test	Detailed Pattern Description
	surface appears to have caused an alteration/disturbance of these stains.
F9ARMB-5602	There are two apparent drip stains, one with limited satellite spatter, toward the upper left hand corner. An additional, slightly elongated, possible drip stain is located away from the other two below center. Larger satellite spatter and a few spines suggest possible (but limited) force acting on this third drip. In between the drip stains, on the left hand side, there is a roughly linear pattern transfer. This stain is oriented diagonally so that the bottom points to the lower left corner and the top points to the center top edge of the photograph. An additional irregular transfer stain is positioned in line with, but several centimeters away from, the diagonal pattern transfer at the top of the field of view. Several apparent cast-off patterns consisting of small circular (or slightly elliptical) spatter stains in curvilinear patterns intersect toward the center of the photograph. Some of these stains may be due to cessation, but numerous stains and a limited sample area make this conjecture at best. Finally, there appears to be a linear mark or fold in the white cardboard substrate crossing the left half of the photograph. This faint marking is made more evident by the fact that the upper drip and the pattern transfer stains cross over it. As an apparent result, the stains appear slightly "altered" with faint regions on one side of the mark / fold.
FCA3E6-5601	3 drip stains with associated satellite stains. Transfer stain to left - can't be sure of transferring item but possibilities include a handle. Non descript bloodstain to top middle. Several spots ranging from approximately less than 1 mm to 5 mm in diameter. Appear in line - possibly cast off though due to lack of directional stains in this image, unable to be sure of this.
FK2H49-5602	Two cast off patterns are present across the target (one from right to left and one diagonally from bottom left to upper right). A transfer stain is present in the left portion of the target. Three drip stains are present (left middle, upper left, and lower middle). The two lower drip stains show accompanying satellite stains.
FPHN34-5605	In my opinion in the item 5 there are three distinguishable type of blood patterns: 1. Three drip stains with similar characteristics, like size (approximately 15 mm diameter), form (almost spherical) and edge characteristics (scalloping) which are not necessarily related to each other. One of them located in the left border, that has a small scalloped edge mainly in its right border. The second one located near the upper left hand corner and the third one slightly below the center of the image. The latter one has associated a relatively large attached spine in his upper border. 2. A transfer pattern or transfer stain located on the left border to the right of the drip stain. It has a regular or define border although it is not associated with the shape of a define object. Interestingly we can observe a dilution process of the blood form left to right of the stain not related with a smear or drag and if we observe in detail the lower end of the stain we could find a small void area and below this some linear features. 3. Two linear spatter patterns without a clearly define direction, formed by small and basically spherical stains (4-5 mm diameter) ine that goes from top to downwards and slightly from right to left or vice versa and another that goes from right to left and slightly upwards or vice versa. In my opinion in the first case there are no clear evidence to define directionality (spines, elongation and satellite spatter) or change in the impact angle (cast-off)
FTWK7K-5601	A transfer pattern was noted on the left side of the photograph, consistent with a possible knife handle. Three large circular drip stains were observed around the transfer stain. Possible cast off spatters were noted approximately from side to side and also somewhat diagonal across the photograph.
FUVJQD-5602	17-5602_item 5 has several bloodstain patterns. There were three drip stains on the left half of the image, one with an accompanying drop. The other two have a few satellite stains associated with them. On the right side near the middle (top to bottom) there was a transfer stain that was a rounded rectangle shape with a circular pattern with a small void in the middle near the lower end of the stain. There were also two cast off patterns. One pattern was on a diagonal between the bottom on the left and right of center at the top. The other was on the diagonal between the middle on the left to below the middle on the right. There was an altered stain in the middle near



TABLE 2 - Part 2: Recognition and Description

**Item 5, continued**

WebCode-Test	Detailed Pattern Description
	the top.
G48FXN-5601	Drip trail with low force velocity impact spatter, blood that falls at the speed or force of normal gravity. these spatters usually falls from an open wound, or from a surface that is saturated with blood and the majority of the low force impact spatters are large
G4UJV6-5605	There are three large, round passive drops (approximately 1.5 cm diameter) each with scalloped edges and small satellite spatter. A large deposit consistent with a swipe of blood is present across the lower left section. An irregular deposit consistent with a transfer stain is "in-line" with but separated from the swipe deposit. Two overlapping cast off patterns are present--one generally left/right; the other generally top/bottom.
GBUYNJ-5601	Drip stains with associated satellite stains were observed on the target. Transfer staining observed toward the left center of the target. Cast-off patterns with associated satellite stains were observed across the target.
GCQCAQ-5601	Drip trail observed vertically in the center of the target surface. Drip trail with possible cast-off due to subtle angle change (right side to left side) observed horizontally on target surface. Drip stains on left/center portion of target surface. Some drip stains display parent stain with satellite stains. Transfer stain on center, left portion of target surface with possible serum separation near transfer stain.
GNJVQG-5602	There is a complex bloodstain pattern spanning across the entire board. A transfer stain is noted on the left margin of the board. Multiple drip stains are located across the board with associated satellite stains. There are at least two crossing cast-off patterns on the board. One spans from the slight right of center upper edge to at the lower left corner of the board. The other cast-off pattern spans across the center of the board from left to right.
GPA4R7-5605	Blood distribution on the piece of white card consists of: A transfer stain within which are two voids; one spherical shaped and one hook shaped at the edge of the transfer stain. In my opinion the shape and voids of the transfer stain could have been caused by a heavily bloodstained knife handle. There is a bloodstain approx. 9.7cm above the transfer stain, which may in my opinion be associated i.e. it could be due to the tip of a heavily bloodstained knife. There are three drip stains (parent stains) which have satellite stains. One of the drip stains has a satellite stain with directionality. There is a drip trail, forming a cross shape, indicating that blood has dripped from a moving object at a 90o angle to the cardboard, forming spherical spots with satellite stains. The moving object has crossed over its original path therefore forming a cross of drip trails.
GQPDND-5601	Two separate and distinct linear patterns, possibly cast off patterns; one approximately horizontal across the surface and the other approximately vertical across the surface, crossing near the center of the image. There are a number of larger drip stains interspersed throughout the image. There is a transfer stain near the left edge of the image, roughly rectangular in shape, oriented diagonally on the image (from lower left to upper right of image) that has two small void patterns within the transfer stain. There is a smaller transfer pattern, roughly triangular in shape, to the right and up from the larger transfer stain with an area mainly void of blood between these two transfer stains.
GTWRGC-5602	Two transfer bloodstains, three drip bloodstains and approximately 40 spatter bloodstains (up to 5mm in diameter) are present on the cardboard. One transfer bloodstain (88mm x 21mm) is located in the left bottom corner (of the image), with the second (12mm x 8mm) located towards the top, middle (of the image). Three near circular drip stains (all approximately 15mm in diameter) are present (in the image). These are located (in the image) towards the left side, the top (just right of the midline) and middle bottom. (Satellite spatter is associated with the drip stains. The spatter is distributed in two linear, diagonally-orientated planes (or broad "lines"); one horizontally and the other vertically orientated. These are classified as cast-off stains, and indicate two cast-off actions. Edge characteristics and stain shape indicate the horizontally

## TABLE 2 - Part 2: Recognition and Description

**Item 5, continued**

WebCode-Test	Detailed Pattern Description
GVZR9W-5605	<p>orientated cast-off travels right to left (in the image), and the vertically orientated cast-off most likely travels from the top to the bottom (of the image).</p> <p>Three circular stains consistent with drip stains are present starting from the lower left corner extending to the lower center of the white cardboard/page. One of the drip stains (lower center of page) may have multiple drips on top of each other (challenging to conclusively determine in the digital image). A transfer stain is observed on the lower left side of the white cardboard. The transfer stain varies in intensity, with heavier staining on the left side and lighter staining on the right side. Two non-stained areas are present (one on the top area and one on the lower area). This may likely be a result of the item not making full transfer/contact with the surface in these two areas (or may be considered a void depending on the shape of item that made the transfer onto the surface). Linear cast-off stain patterns appear to be crossing over (overlapping) each other, appearing as an "X" across the cardboard. A dark bloodstain in the center of the cardboard is potentially showing directionality although the tail of this stain is not clearly defined. It could be a product of multiple drip stains splashing on top of each other (drip in the lower center of page) or this could be completely independent of the other patterns/stains observed. Additionally, a bloodstain with an irregular shape is present at the top center of the page. It is unclear if this could be a transfer stain or a result of another event.</p>
GWC7XR-5602	<p>There are at least two cast-off patterns (one horizontal and one diagonal) which cross paths on the target. The stains in this pattern appear circular so the directionality of each cast-off is undetermined. The stains measure ~1mm to ~5mm in diameter. There is a transfer stain on the left side of the target, rectangular in shape, ~8.5cm long and ~2cm wide. There is another possible transfer stain at the top center of the target (may or may not be related to the other transfer stain). There are three drip stains ~1.5cm in diameter (some with accompanying satellite stains).</p>
GWD49M-5601	<p>I have examined Item 5 and observed the following patterns: Drip pattern, satellite stains, drip stains, a drip trail, and transfer stain. Also, minimally, due to drying there are altered stains.</p>
H24XJT-5602	<p>Multiple pattern types are present on the target surface of Item 5. These include: Transfer stains in the shape of an apparent knife handle and knife blade tip are located on the left side of the target surface. These are oriented diagonally with the tip at the upper end of the target. The stain representing the handle measures approximately 86 mm in length and 20 mm in width at the widest margins. A circular void measuring approximately 3 mm in diameter is present in the center of the lower end of the handle. A transfer stain in the shape of a knife blade tip is oriented approximately 112 mm from the handle in the same diagonal orientation. This would be indicative of an overall knife length of approximately 198 mm. Three drip stains are present on the target surface. Two of these stains are located to the left of the apparent knife handle and blade tip. Satellite stains are present on the uppermost of these two. One drip stain with an accompanying drop and satellite stains is present in the lower center area of the target. Cast-off patterns oriented both horizontally and vertically extend to the edges of the target surface and intersect through the center axis. The exact number of movements resulting in these cast-off patterns could not be determined.</p>
H8QM7N-5602	<p>Two cast-off bloodstain patterns resulting from blood drops released from an object due to its motion are observed in the image. One cast-off bloodstain pattern is observed across the center of the image in the left/right direction, and the second cast-off bloodstain pattern is observed across the center of the image in the up/down direction. A transfer bloodstain is observed in the lower left corner of the image. The bloodstain was deposited on the surface when a blood stained knife handle was placed onto the surface. A transfer bloodstain is also observed at the center top edge of the image. This transfer bloodstain is likely the result of blood transferred from the knife blade tip to the surface. Three drip bloodstains are observed in the image. One drip stain is observed in the upper left corner of the image. A second drip stain is observed at the left lateral edge of the image (left of the transfer blood stain), and the third drip stain is observed at</p>

## TABLE 2 - Part 2: Recognition and Description

**Item 5, continued**

WebCode-Test	Detailed Pattern Description
H9JG28-5602	<p>the lower center area of the image. Few satellite bloodstains are observed in the image resulting from the drip stains impacting the surface.</p> <p>Pattern Recognition – Drip stains, parent stain, satellite stains, transfer stains, cast-off patterns, void. Detailed description - on the left half of the target there are 2 drip stains, in addition there are 2 transfer stains, the first transfer stain is approximately 86 mm in length and 20 mm in width at the widest point. There is a void, approximately 96 mm in length, between the top of the first transfer stain and the second transfer stain. The second transfer stain is approximately 11 mm in length, 8 mm in width at the lower portion and 4 mm in width at the top portion. Cast-off patterns are noted on the target, the first goes across the center of the target (right/left). The second cast-off patterns are at the top and to the right of the center and continues to the bottom left of the target.</p>
HBMBG4-5601	<p>This is a bloodstain pattern consisting of drip stains which consist of parent and satellite stains. There is also a presence of a small pool of blood and cast off patterns.</p>
HELRCQ-5602	<p>The bloodstains pattern on the piece of white cardboard represent a drip stain pattern - which is described as a bloodstain resulting from a falling drop that formed due to gravity. There are drip or passive spatter which are random orientated, demonstrating generally small to large volume stains. The target also consist of wipe pattern. A wipe which is an altered bloodstain pattern resulting from an object moving through a preexisting wet bloodstain.</p>
HFZCJM-5602	<p>Transfer pattern of a knife: grip and the tip of the blade. Three drip stains around this transfer pattern. Two line of castoff patterns across the area. The horizontal one is swing castoff pattern from right to left.</p>
HKT99D-5601	<p>A transfer stain is present on the left side of the target. Drip stains are present on the left half of the target. Cast-off patterns are present horizontally and vertically across the target.</p>
HTAP39-5601	<p>Three circular stains between 13-15 mm in diameter, not aligned. One has a ligament with an associated elliptical satellite stain. ~40 smaller circular to slightly elliptical spatter stains in 2 or 3 linear formations intersecting in the center of the pattern. ~30-40 add'l sub-millimeter stains (circular to elliptical) scattered throughout the pattern. One elongated (20 mm x 86 mm) stain with smooth margins and a circular void, oriented lower left to upper right. An additional irregular-shaped (heart shaped) stain located in alignment ~95 mm up and to the right from the elongated stain. The stain is ~11 mm x 9 mm. The overall pattern is ~23 cm x 32 cm and may extend beyond the image. Conclusion: Drip and transfer bloodstains with at least 2 cast-off patterns.</p>
JHLBDB-5602	<p>Target is a piece of white cardboard in the horizontal plane. Three individual drip stains at the left and bottom side of the target. At the left side of the target an oblong transfer stain, in its extension a smaller transfer stain is recognized at the top of the target. Based on the form of the larger transfer stain, this could be a handle of a tool, the second transfer might be the result of contact with the tip the tool. Two separate more or less linear orientated patterns; one pattern consisted of more or less circular spatter stains at the right and also slightly oval spatter stains towards the left of the target. This cast-off pattern shows a directionality from right to left side of the target. The second pattern consists of more or less circular spatter stains, which are located between to top and bottom of the target. No unambiguously indication of directionality is recognized in (parts off) this drip trail. A vertical fold within the cardboard didn't alter the bloodstains.</p>
K6BA96-5601	<p>There are a few drip stains exhibiting an approximate vertical angle of impact, along with accompanying drops. There are a number of smaller blood stains indicating cast-off pattern which in my view appears to be a result of at least two separate actions. There is a transfer blood stain with small voids present. The transfer stain is approximately 86 mm long and up to 20 mm wide.</p>

## TABLE 2 - Part 2: Recognition and Description

## Item 5, continued

WebCode-Test	Detailed Pattern Description
K78MTC-5601	Based on the choices provided, the following patterns were observed: A transfer pattern was visible along the left side of the cardboard near the middle. Drip stains were visible along the left and middle of the cardboard. Cast-off patterns were visible both horizontally & vertically across the cardboard. Satellite stains were visible on the cardboard, originating from the parent stains.
KEJMJ8-5602	Several bloodstains are on the target, including: (1) Drip stains. There are three classifiable drip stains. One on the far left side, one on the upper left side and one on the lower central area of the target. Satellite stains accompany the latter two described drip stains. (2) Numerous spatter stains favourable with being cast off bloodstain patterns. Most of the individual spatter stains are circular in shape. The larger spatter stains are 3-4mm in diameter, with the smaller spatter stains being less than 1mm in diameter. The distribution of the spatter stains are in two (or more) linear arrangements. There is one linear arrangement of stains between the bottom left and top right of the target. A second linear arrangement of stains is between the left and right sides of the target. This distribution of spatter stains is favourable with there being two (or more) cast off bloodstain patterns on the target. The directionality of the cast off patterns could not be determined. (3) A transfer stain is on the left side of the target. The stain is approximately rectangular in shape. The stain is quite voluminous, with an accumulation of blood on one side of the stain. The stain has some features which are favourable with the object which caused the transfer stain being a handle (such as the handle of a knife) or a similar object. Those features include a circular shape/pattern at one end of the stain (consistent with an indented screw or hole through a handle). The edge characteristics of the transfer stain are also favourable with stain having being caused by a handle or similar object. Another bloodstain which is approximately triangular in shape is observed on the top of the target, 140mm from the top left corner. When the rectangular shaped transfer stain and the triangular shaped bloodstain are considered together, the shape and orientation of the triangle shaped stain was possibly caused by the bloodstained tip of a knife or similar object with a handle.
KF969L-5601	In the photograph, multiple cast-off patterns are visible, intersecting in the middle of the image. A second pattern that can be identified is 3 distinct drip stains, with satellite stain resulting from the formation of the bottom right drip stain. The third pattern is a transfer stain (most likely a knife), with the handle at 25mm-80mm from left to right and 95mm-175mm from top to bottom. The transfer from the tip of the knife (again most likely) can be seen at 145 from the left and 15mm from the top.
KHZYCH-5602	The bloodstain complex is a composition of different patterns covering an area of circa 22x30cm. A separation of those patterns is elementary for further discussions. The first attention is paid to the two linear shapes consisting of single bloodstains. Are in nearly round shaped dimensions of (4 = 1mm) featuring two separate catenaries (chain like lines). Those linear characters crossing each other in an angle of ~80° and stretching along the described area in width and length, respectively. Considering the linear and narrow shape a cast-off or cessation cast-off pattern should be discussed. Three similar almost round shaped bloodstains are located in the left-centred position of the area to be analysed. The two further left positioned stain build a dimension of Ø ~14mm suggesting to be formed by a very small angle of impact. Considering the relation between the axis and the jagged edge characteristics of the two stains a classification as a Drip Stain will have a strong support. A significant and unique feature creates the third stain in the lower centred position. At a closer look two spikes are leading rectangular from the outline can be seen with one of them forming a little satellite stain at its far most end. Near the intersection of the mentioned lines an additional stain is visible which does not fit into the general appearance of the surrounding stains. It creates an oval shape and consist of a higher amount of blood what would explain the darker appearance compared to the stains its periphery. Its orientation (major axis) points away from the mentioned upper spine so it could likely be explained as a satellite spatter from the discussed stain. Furthermore the formation can be discussed as a result of the drip pattern. A strong distinctive structure is located on the left position of the area. The stain covers a plane of about 8.5cm in length and 2.0cm in width in an

## TABLE 2 - Part 2: Recognition and Description

## Item 5, continued

WebCode-Test	Detailed Pattern Description
	angle of ~33° relative to the left scale bar. Taking the form, the covered area and the different density of blood featuring the stain a classification as a transfer pattern is nearby. A detailed inspection of the density results in a higher amount of blood gathering on the left side of the major axis of the stain. A single round shaped (Ø ~3mm) void is located on the lower centred part of the feature. The outline shape resemble the shape of a plastic kitchen knife's handle, corroborated by the finding of the small circular void at one end, suggesting a hole for hanging-up. Following this interpretation, an additional stain could also be explained easily: At the middle top an irregular shaped slightly triangular stain can be seen which does not fit easily into any formation scheme. But together with the assumption of a kitchen knife, this may be interpreted as a transfer stain of a tip of a suggested knife's blade.
KPLWZ6-5605	Transfer stain (lower left as well as the irregular shaped stain near top middle). Three drip stains observed. One stain in bottom middle has irregular edges. Satellite stains were observed around the drip stains as well as the other spatter stains in the image. Smaller (~1mm ~3mm) circular spatter stains across the image that has linear orientation. Best explanation for the manner of deposition of these stains is (at least two) cast-off patterns due to the crisscross linear orientation. The crisscross linear orientation does not support cessation cast-off. (not sequenced)
KVPWGL-5601	Red-brown stains, consistent with a cast-off pattern, were present on the horizontal plane between the left and right side of the visible area. A second set of red-brown stains, consistent with a cast-off pattern, were present intersecting the aforementioned pattern between the lower left and upper right of the visible area. A single elliptical stain, measuring approximately 3mm x 6mm, was present near the center of the aforementioned patterns. Three drip stains were present dispersed among the aforementioned patterns. A transfer stain and an additional irregularly shaped red-brown stain, in line with one another were also present amongst the aforementioned patterns.
KWLCPG-5602	A transfer stain on the left side of the target. Cast-off patterns across the target, vertically and horizontally. Three drip stains.
KYMFFE-5601	There are at least two (2) cast-off patterns located in the center of the target. One (1) of the cast-off patterns is oriented mostly vertical between the top and bottom edges (slightly diagonal), while the other cast-off pattern is oriented mostly horizontal between the left and right edges (slightly diagonal). They intersect in the center of the target. There is at least one (1) transfer stain located on the left side of the target. This transfer stain somewhat resembles some type of handle. There is a possible second transfer stain located on the upper middle edge of the target. There are three (3) randomly placed drip stains (larger in diameter compared to the stains in the cast-off patterns). Two (2) of these drip stains are located on the left side of the target and one (1) drip stain is located below the horizontal cast-off pattern.
LEVQKC-5602	This complex pattern consists of a transfer stain in the left/upper left of the area in question (as imaged). Three drip stains, two to the left and one to the right of the transfer stain are also noted. Cast-off patterns cross to the right of the transfer stain with one spanning left/right and at least one additional spanning roughly top/bottom and at a slight diagonal. Multiple sub-millimeter stains are also noted throughout but it is undetermined if these are associated with the aforementioned patterns or are a result of a separate event. Noted mechanisms: Transfer, Drip, Cast-off
LR9JQJ-5601	A swipe pattern located to the left and is angled to approx 1 o'clock. Directionality of the swipe can not be determined. Around the swipe pattern are 3 drip stains. Each drip stain has scolloped edge characteristics with minimal satellite stains. 2 cast-off patterns are present and cross each other, centred near the centre of the target surface. One is orientated approx 10-4 o'clock and the other approx 1-7 o'clock. Directionality of the more horizontally orientated cast-off appears right to left.
LTJNW9-5605	There is an approximately rectangular shaped bloodstain on the left side of the photograph. In

## TABLE 2 - Part 2: Recognition and Description

## Item 5, continued

WebCode-Test	Detailed Pattern Description
LWDWPG-5601	<p>my opinion this is a transfer bloodstain. Approximately 10 centimetres above this rectangular stain is a roughly triangular shaped stain. There are three circular stains which in my opinion are drip stains. There are two groups of linearly arranged circular bloodstains, at different angles to each other, in the middle of the photograph. In my opinion these stains form cast-off patterns.</p> <p>(1) There are two patterns resulting from drip stains crossing each other at one point, meaning we have two drip trails. (2) Blood stain which result from falling drop of blood are observed also - Drip. (3) Pattern transfer of a knife handle with void between the tip and handle.</p>
M3XCVZ-5602	<p>Area: Bottom left to top right: There is a linear pattern (possibly a second as well) going across the surface. There is no discernible directionality to the linear pattern. The stains are consistent with a drip trail because the individual stains are drip stains with the bloodstains being circular in shape and the force acting upon them being gravity. Area: middle left to bottom right: There is another linear pattern that is similar to the above listed pattern. No directionality determined from the linear pattern. The individual bloodstains are drip stains because of the circular shape with gravity being the force acted upon them. The pattern as a whole is a drip trail. Area: #1 left side of page in the middle / #2 middle of the page close to the top / #3 middle to right of the page close to bottom: There are three larger mostly circular stains with gravity being a force acted upon them. These three stains are drip stains. Area: Bottom left to top right: The oblong shape is approximately 20 mm wide at the widest point and 78 mm long. The small triangle shaped stain is in line with the oblong shape. Both stains are consistent with transfer stains. The stains could be separate occurrences or together. If the stains occurred at the same time, then the transfer could possibly be from a knife; the oblong shape being the handle and the triangle shape being the tip of the blade.</p>
MAH6DQ-5602	<p>Cast-off patterns were observed between the top and the bottom, and between the left hand side and right hand side of the image. And these two cast-off lines crossed each other in the center of the image. Three drip stains were scattered on the upper left, middle left and middle bottom of the image, respectively. A transfer stain was observed on the left side of the image.</p>
MDHGAQ-5601	<p>Two transfer stains on the left and center of the plane. A minimum of two possible cast-off patterns were on the plane (limited information due to having a single limited view photograph). Drip stains were located on the plane. Satellite stains and accompanying drops were located near the drip stains and some of the stains within the possible cast-off patterns. Some small micro-drops were visible in all quadrants of the plane.</p>
MFN2WQ-5601	<p>There were several drip stains, some of which had satellite stains or accompanying drops. One of the drip stains was possibly created by two drops creating a possible drip pattern. Additionally there were two irregularly shaped transfer stains, and two possible cast-off patterns. The possible cast-off patterns were very short due to the size of the target surface provided. There was also a distribution of micro-drops observed across areas of the target surface.</p>
MHDA3L-5601	<p>There is a transfer stain in left portion of pattern that measures approximately 3 7/8" in length and 3/4" at widest point. There are several cast off patterns that cross at center of the pattern. The droplets vary in diameter and range approximately from 0.5 mm to 4.5 mm with some tailing present. There are 3 drip stains in the pattern. One drip stain occurs in the left middle side of the pattern and measures approximately 13 mm. The second drip stain is present in upper left side and measures approximately 15 mm. The third drip stain is in the lower center portion and measures approximately 15 mm by 12 mm. All drip stains have accompanying drops. There is a reddish brown stain in upper center portion of pattern that measures approximately 12 mm at 8 mm at widest points.</p>
MM4RB6-5602	<p>1. Two (2) Transfer stains from one object to another in which a recognizable image or characteristics can be possibly present in the pattern. 2. Two (2) drip trails which cross to each other resulting from the movement of a blood source between two points. 3. Three (3) drip stains as the results blood dropping from the source. 4. One (1) satellite stain which originates from</p>

## TABLE 2 - Part 2: Recognition and Description

## Item 5, continued

WebCode-Test	Detailed Pattern Description
	one of the drip stain.
MPT2E6-5602	Pattern comprises of 2 cast-off patterns, approx 90 degrees to each other. One pattern runs approximate horizontal, comprising of in excess of 16 near circular bloodstains 2-3mm in width. Second pattern runs at near 90 degrees to this pattern, comprising of in excess of 12 near circular stains, these patterns cross near the center of the image. There is a transfer stain located at the left hand side of the image, rectangular in shape. The shape of the transfer suggests it may have been produced by the handle of the knife. There is also an irregular shaped stain n near the top of the image that would coincide with the location of a knife tip. There are also three (3) drip stains approx 12mm across distributed around the location of the transfer stain.
MWCE8C-5601	At least two (2) CAST-OFF PATTERNS are observed crisscrossing the center of the target. A TRANSFER STAIN is observed on the left side of the target. Three (3) DRIP STAINS with minimal associated SATELLITE STAINS are observed on the target.
N7YMK9-5602	Two (2) drip trails that crosses, are identified. This drip trails are patterns resulting from the movement of a source of drip stains between two points, where the stains are spatter that are in a linear orientation with no evident flows in the individual stains and with no progressive impact angle changes. Two (2) transfer stains are identified, which could be related. This resulting, from contact between a blood-bearing surface and another surface. These are non-spatter stains with a recognizable pattern present. Three (3) drip stains are identified, with one (!) showing satellite stain. The drip stains resulting from a falling drop that formed due to gravity with no linear orientation and is a random distribution with no radiating pattern, and the satellite stain is the smaller bloodstain that originated during the formation of the parent stain as the result of blood impacting the surface. A void area which could be shadowing or void or ghosting within a generally continuous pattern or bloodstain.
NDEEWR-5601	There are three circular drip stains, ranging in diameter from 12mm-14mm. There is a transfer stain that is ~2cm wide and ~8.5cm long. There are two cast-off patterns on the surface, one with circular stains that extend from the bottom left to the top right, and another with circular stains that extend horizontally across the surface. As the stains are circular, no directionality of the patterns is determined. There is a transfer stain near the top, center of the pattern, and a single spatter stain with directionality noted from the bottom right to the top left.
NJYL96-5601	The target displays a complex pattern which consists of a transfer stain and two drip trails criss-crossing another. There are two drip stains in close range of the transfer stain. Present also, is a parent stain with satellite stain further away from the transfer stain in closer range to the second drip trail.
NKYEBJ-5602	The pattern characterizes the following: two separate cast off patterns; multiple drip stains; a transfer pattern
NRCCY3-5601	Three distinct types of bloodstain patterns observed: 1)Three circular bloodstains, each approximately 1.5cm diameter. Angle of impacts for all three is approximately 90 degrees. In my opinion, these are three drip stains. Some smaller satellite stains also observed. 2)Two bloodstain patterns formed of small circular bloodstains in a range of sizes (approximately 0.1cm - 0.4cm diameter). One pattern runs right < > left, and the other upper right < > lower left. Angle of impact of all stains is approximately 90 degrees, no obvious directionality observed. Bloodstains not radiating and no obvious area of convergence or single point of origin. In my opinion, these patterns are the result of cast-off blood (at least two separate events). 3)Elongated bloodstain, approximately 8.5 x 2 cm. Heavier along one boundary but no obvious movement seen. In my opinion, this is a transfer stain. Additional bloodstain in central upper area approximately 1.0 x 0.8cm. I am unable to determine how this was deposited.
NUF6T2-5601	Two drip trails which intersect in the middle of the cardboard (with one drip trail in an east/west directionality and the other in an almost southwest/northeast directionality.) Three large individual drip stains populate the western half of the cardboard and are not linear with each

## TABLE 2 - Part 2: Recognition and Description

## Item 5, continued

WebCode-Test	Detailed Pattern Description
	other. The easternmost large drip stain is a parent stain to a nearby satellite stain above it. Also on the western half of the cardboard is a transfer stain of the handle to a blood soaked knife and the tip of the knife's blade.
NZCMD9-5602	Transfer stains on the left and top side of the target surface. 3 drip stains on left, top left and middle bottom. 2 cast off patterns right- left and top- bottom
P6ZPYJ-5601	Starting at the upper left-hand side of the photograph and moving downward and to the approximate center of the photograph, there are three approximate circular stains. One of these circular stains has dimensions of approximately 1.5 cm by 1.5 cm. The other two approximate circular stains have dimensions of approximately 1.3 cm by 1.4 cm. These three stains have scalloped edges and one of the three stains has two spines protruding from the main body of the stain. These three stains are suggestive of drip stains. On the left hand side of the photograph and approximately half way down the image, there is a stain with dimensions of approximately 8.7 cm by 2.0 cm. This stain is suggestive of a transfer stain. The blood appears to be more thickly deposited on the left-hand side of the stain than it appears on the right-hand side and bottom of the stain. However, a small portion of the lower left-hand side of the stain also appears to be lightly deposited with blood. Additionally two areas, one circular and one semi-circular, were noted within this transfer stain. There is an absence of blood in these two areas, which create voids within this transfer stain. Circular bloodstains are present in at least two linear arrangements traversing the target from side to side and top to bottom. The circular stains range in size from less than 1 mm by less than 1 mm to approximately 5 mm by 5 mm. Scalloped edges are apparent on many of these circular stains and small (less than 1 mm in size) satellite stains are noted adjacent to the parent stains. One of the larger stains on the right-hand side of the photograph appears to be two stains overlapping one another. This pattern is suggestive of drip trails. However, consideration should also be given to the possibility of this being a cast-off pattern. Elliptical stains and directionality of some of the stains, which would be a characteristic of a cast-off pattern are not noted in this pattern however. Additional case information may be of value in making a definitive determination between drip trails and cast-off.
P8LT7G-5601	A = Drip stain (~15mm x 15mm) with scalloped edges. B = Drip stain (~13mm x 13mm) with scalloped edges. C = Drip stain (~14mm x 13mm) with scalloped edges. D = Transfer stain of a roughly rectangular shaped object. A circular void and an oval shaped void are present. E = Transfer stain of a roughly triangular shaped object. F = Cast-off pattern (linear stains, satellite spatter present, circular and slightly elliptical stains range from ~1mm x 1mm to ~5mm x 4mm). G = Cast-off pattern (linear stains, satellite spatter present, stains range from ~3mm x 2.5mm to ~4mm x 4mm). F and G cross near the center of the photograph. H = Stain with directionality (~3mm x 6mm) Additional RBS noted.
PAR4ED-5601	3 drip stains, some of which have associated satellite stains. Multiple cast-off patterns intersecting near the middle of the image. Transfer pattern consistent with that of a knife. Edge characteristics of the knife tip and handle is visible, with a void in the handle area, possibly from the thong hole area of handle.
PLJUVB-5605	Item 2-5 is a horizontal surface with three primary patterns, a transfer stain, three drip stains, and two cast off patterns. The transfer pattern located on the left side of the target is similar to a knife silhouette with a 4 ¼ inch blade and a 3 ¾ inch handle. Two drip stains are present on the left side of the transfer pattern and one drip stain is 4 inches to the right. A dirty-looking straight line slightly alters one of the drip stains and part of the transfer pattern. At least two suspected cast off patterns are present. One pattern is side to side and the other is diagonally from top to bottom (or bottom to top). Most cast off drops are circular and indicate that the blood source was directly above the target during the swing of a bloody object.
PNCJHD-5601	Cast-off Patterns: Circular shaped bloodstains, with spines and satellite spatter, deposited in a linear orientation, with consistent parallel directional angles in the stains to the overall pattern, consistent change in impact angle in the pattern. Three separate cast-off patterns are observed in



## TABLE 2 - Part 2: Recognition and Description

## Item 5, continued

WebCode-Test	Detailed Pattern Description
	<p>the middle of image. All three cast-off patterns intersect in the middle of the image. The cast-off patterns were created from right to left. The bloodstains observed, suggest projection as the possible deposition mechanism. Transfer stain: Bloodstain observed to the left within image, regular margin. Edge characteristics: demonstrating angular demarcations, curves and linear edges. Indicate recognizable characteristics and partial image of the source object which created the bloodstains observed. The bloodstains characteristics is indicative of a knife handle and a tip of it's blade. Capillary action observed within transfer bloodstain (handle). Overall length of the knife is 193mm. The bloodstains observed, suggest contact as the possible deposition mechanism. Drip Stains: Circular shaped bloodstains (2) with an average diameter of 13.6mm between the two drip stains. Randomly orientated over the left half of the image. The bloodstains observed, suggest gravity as the possible deposition mechanism. Drip stains (2) and Transfer bloodstain at the bottom of image in the middle: Tow circular shaped bloodstains with an average diameter of 14mm, semi on top of one another on the surface. Transfer bloodstain observed underneath drip bloodstains, to the right. Edge characteristics: linear edge, thin edge/object, approximately 9 mm in length (visible). The width of the transfer bloodstain, might suggest a knife blade covered with blood, being in contact with the surface, resulting in the creation of the transfer bloodstain. One elliptical spatter bloodstain observed, middle of image, directionality of spatter stain indicate the spatter stain originate from the parent stains (drips). Altered Bloodstain: 1 Alteration of the transfer bloodstain was observed. The object made contact with the bloodstain, while the blood was still a liquid, what caused a linear defect in the bloodstain. Altered Bloodstain 2: Alteration of the left upper drip bloodstain observed. The object made contact with the bloodstain, while the blood was still a liquid, what caused a linear defect in the bloodstain. Alteration to both bloodstains occurred simultaneous, which further indicate to a linear object with a continuous edge which made contact with the horizontal surface, which resulted in the creation of the altered bloodstains.</p>
Q3NEEK-5602	<p>A transfer stain is observed on a left side (a shape alike rectangle). There are also many nearly circular and relatively small stains (up to ca. 5 mm in diameter) which create two, intersecting, drip trails or cast-off patterns. Moreover, there are three nearly circular and relatively large stains (ca. 15 mm in diameter) which are probably drip stains.</p>
Q9C24Y-5601	<p>There are 3 larger drip stains on the target surface. A transfer stain is present. Two smaller drip trails are present and intersect at the center of the target surface.</p>
QDP4RF-5601	<p>Drip trail - a blood pattern resulting from the movement of source of drip stain between two point. Drip stain - blood resulting from the falling drop that form due gravity. Alterea Stain - a blood stain with characteristics that indicate a physical change has occur. Bubble ring - an outline within a blood stain resulting from air in the blood.</p>
QKMP3N-5602	<p>Item 5 is an image of three drip stains, a transfer stain and two cast off patterns. A satellite stain is near the center of the image.</p>
QL6TH2-5605	<p>Three separate bloodstain patterns are present on the target: 1) a large rectangular shaped transfer stain is present on the left side of the target, with a smaller triangular shaped transfer stain approx 108 mm distance above. These transfer stains have the shape of a bloodstained knife handle and knife blade tip, and indicate the bloodstained object was resting in this area and has subsequently been moved. 2) two cast-off patterns are also present, one extends in a linear arrangement across the target in the approx centre, the second extends in a approx linear arrangement vertically through the target, roughly parallel to the position of the transfer stains mentioned in 1). 3) 3 large circular drip stains are present on the target, 2 on the left side of the transfer pattern, the third on the right, near the centre of the target.</p>
QM9F4R-5601	<p>A transfer stain approximately 87mm long by 22mm wide with heavy red/brown staining on the left half of the stain and a possible circular void near the bottom end of the stain is located on the left half of the image. The stain is lying at a diagonal with the bottom of the stain is near the bottom left corner of the image with the top of the stain pointed toward the top center of the</p>

## TABLE 2 - Part 2: Recognition and Description

## Item 5, continued

WebCode-Test	Detailed Pattern Description
	<p>image to the right. A possible void continues from the top of the transfer stain in the same direction approximately 95mm to a possible transfer stain located near the upper center of the image. This transfer stain is approximately 12mm from top to bottom and 9mm from left to right in size. These two transfer stains appear to be related and consistent with the side of a knife. The total approximate length from the opposing ends of each transfer stain is 194mm. Three drip stains, ranging in size from approximately 13mm to 15mm, are located on the left half of the image. These stains are mostly circular appearing to have made contact with the surface at 90 degrees. The drip stains located near the bottom center of the image (approximately 87mm in from the bottom) exhibits a related satellite stain up to the left approximately 38mm. Multiple small stains consistent with a drip trail. These stains are predominately circular and appear to be in two groupings. One grouping lies across the image diagonally from the bottom left to the upper right. No directionality could be determined. The second grouping lies across the image at the left side near the center to the lower right side with a few stains exhibiting a right to left directionality. The large transfer was either dry before the multiple small stains were created or placed on the surface after the multiple small stains were dry. Unable to determine the specific sequence.</p>
QNK9ZF-5602	<p>On the left side of the photo is a contact (transfer) pattern. There are a minimum of two cast off patterns. On horizontal and one vertical in the photograph. There are three drip stains.</p>
QXCL4L-5601	<p>The image displays multiple near circular drip stains (directionality unclear). Three of the drip stains are large (&gt; 14mm in diameter), including one with associated satellite spatter. The remaining drip stains are &lt; 5mm and appear to form two intersecting trails, one roughly horizontal across the image and one slightly off vertical. It is unclear whether the trails were deposited at the same time and/or which trail was deposited first. There may be additional drip stains that are in addition to these trails. There are two transfer stains on the left of the image. One possible scenario that could have created these stains is a wet bloodied knife handle along with the wet bloodied tip of the blade contacting the surface. There are also other mechanisms/items that could have produced this staining.</p>
R7G336-5602	<p>The following patterns are present in no particular order: cast-off pattern #1 stretching horizontally, from left to right; cast-off pattern #2 stretching diagonally, from upper right to lower left; three drip stains noted, with satellite stains; transfer pattern noted, measuring approximately 86mm x 21mm</p>
RLV2FJ-5602	<p>On this horizontal plane we could presume that there is two different target. The target. We can see 3 drip stains (10mm, 80mm, 175mm relative to the upper ruler). 2 transfer stain are present on the target, one large with a rectangular shape on the left side (approx. 85 mm X 19 mm) and the other one on the upper right corner (at 140mm) is a small transfer stain of irregular shape (approx. 9mm X 10mm). At least two different cast-off patterns are observed on the plane. One from upper right side to the bottom left side. The other one from the middle right side to the middle left side. Both cast-off shows small (4mm dia. average) nearly circular stains. No evident gradient of directionality (angle of impact).</p>
RLV9D6-5602	<p>Two (2) drip trails that crosses, are identified. This drip trails are patterns resulting from the movement of a source of drip stains between two points, where the stains are spatter that are in a linear orientation with no evident flows in the individual stains and with no progressive impact angle changes. Two (2) transfer stains are identified, which could be related. This resulting from contact between a blood-bearing surface and another surface. These are non-spatter stains with a recognizable pattern present. Three (3) drip stains are identified, with one (1) showing satellite stain. The drip stains resulting from a falling drop that formed due to gravity with no linear orientation and is a random distribution with no radiating pattern, and the satellite stain is the smaller bloodstain that originated during the formation of the parent stain as the result of blood impacting the surface. A void area which could be shadowing or void or ghosting within a generally continuous pattern or bloodstain.</p>

TABLE 2 - Part 2: Recognition and Description

**Item 5, continued**

WebCode-Test	Detailed Pattern Description
RPGZDE-5601	Red-brown stains (marked A), consistent with a cast-off pattern, were observed. Drip stains (marked B) and a transfer stain (marked C) were also observed.
RRHVBV-5602	There are three drip stains (diameters are about 12 mm ~ 15 mm), two transfer stains, and the cast-off patterns crossing the plane in two directions. And in the middle of the plane, there is one spatter stain (major axis: about 6.5 mm, minor axis: about 3mm, which has directionality to the upper left part of the plane. The drip stain on the left part of the plane has spine on the right side, therefore, its directionality is right. There is a grid-shaped pattern in the inner part of the transfer stain (width: 22 mm, length: 87 mm) on the left part of the plane, and the width and the length of another transfer stain which is on the upper middle part of the plane are about 8 mm and 12 mm. And the directionality of one of the cast-off patterns is to the left, and the other cast-off pattern is downward.
RTWMY7-5601	Based on the choices provided by CTS, this target surface possessed the following bloodstain patterns: Drip stains are visible on the target surface. A transfer pattern is located at the center left of the target surface. Multidirectional cast-off patterns were visible across the target surface. Satellite stains, produced by parent stains, were present on the target surface.
RWUY2X-5602	One transfer stain was observed on the left side of target with a possible related bloodstain on the top middle area of the target. Two cast-off stains were observed; one positioned lengthwise through the middle of the target and the other positioned with one end near the lower left corner of the target and the other end near the right top corner. Three drip stains were observed; one in the lower middle of target, one along the middle left edge of target and one on the upper left side of target.
T8R8D9-5601	Two crossing lines of Cast-off Patern. Swipe Patern on left and Transfer Stain on top. Two Drip Stains. Cassation Cast-off Patern.
T97LRA-5605	1/ On the left side and in the middle of the picture: There are three drip stains. There's maybe also an accompanying drop linked to the leftmost stain. 2/ On the left side of the picture: There is a transfer stain. There is no characteristic pattern identifying the object causing the stain. 3/ There are two castoff patterns: the horizontal one is oriented in a upward movement, from right to left. the vertical one is oriented in a downward movement, from right to left.
THRU76-5601	1. A transfer bloodstain possibly a side of a hand, possibly an additional associated bloodstain to upper middle section. One part heavier than other (possible dilution?). 2. Spots of blood - possible 2 x linear drip trails both vertical and horizontal, intersecting in the middle. (Cannot entirely rule out cast off bloodstains, but no obvious directionality to any stains). 3. 3 drip stains, with spines and a few satellite stains.
TUA8RF-5602	On the left half of the target there are three non-linear spatter stains that range in size from approximately 13-15mm in diameter. These stains exhibit crown and/or spine edge characteristics. These three stains can be classified as drip stains. Also on the left half of the target there are two non-spatter stains, one larger than the other. No apparent movement is associated with these stains. These two stains can be classified as transfer stains. Also on the target are linear spatter patterns crossing near the middle of the target. One pattern extends from right to left and the other from top to bottom. Calculating the angles of impact supports the possibility of an angle of impact change with the angles of impact of the stains at the right and top of the patterns being approximately 90° and the angles of impact of the stains at the left and bottom of the patterns being approximately 63° and 66° respectively. The sizes of the stains within the linear patterns range from submillimeter to approximately 5mm. These stains can be classified as (at least two) cast-off patterns.
TVCCYA-5601	Item 5 may consists of three major stains: 1- TRANSFER STAIN located on the left side of the image. Shape is indicative of knife leaving behind stain of knife handle and blade edge (almost at top middle of the image). 2- DRIP STAIN: Three (3) larger nearly circular stains at the lower

## TABLE 2 - Part 2: Recognition and Description

**Item 5, continued**

WebCode-Test	Detailed Pattern Description
	center and left of the image. 3- CAST-OFF PATTERN: Few circular stains are indicative of cast-off blood pattern.
TWBBJ3-5602	Both spatter stains and transfer stains are distinguished on the target. Three relatively large (diameter of 13-15 mm) drip stains, orientated individually. One of the drip stains shows both a satellite stain and a spine. Additionally, the same drip stain shows a small change on the right side edge, what could be caused by transfer or wipe activity. Across the target, a minimum of two, but possibly three trajectories of relatively small (3-4 mm) spatter stains are shown; the linear distribution of these patterns are more probable when they are a result of a cast-off mechanism, that when it would have been another spatter mechanism. No directionality can be distinguished, but one is in a somewhat vertical motion, the other horizontal; both combine as an X shape. Possibly, an additional cast-off pattern is located between them, but with less spatter stains, so with less certainty. A somewhat rectangular shaped transfer stain (~ 8,5 x 2,3 cm) is observed on the left hand side of the target. A smaller transfer stain (~ 10 x 13 mm) is observed in line with the large transfer stain, at ~8,5 cm from it. Both stains can be associated and both the shape(s) and the combination of the two are likely to be formed by one object, most probably by some type of stabbing weapon (its handle and the tip of the weapon).
TXMCYA-5601	Item 5 is a piece of white cardboard in the horizontal plane with a complex pattern consisting of the following: From top to bottom: 1. Drip Trail top to bottom -> Bloodstain pattern resulting from the movement of a source of drip stains between two points. 2. Pool -> Bloodstain resulting from an accumulation of liquid blood on a surface. 3. Drip/Parent/Satellite stain -> Bloodstain resulting from falling drop that formed due to gravity. Bloodstain from which satellite stain originated. Smaller stain that originated during the formation of the parent stain as a result of blood impacting a surface. 4. Drip Trail right to left -> Bloodstain pattern resulting from the movement of a source of drip stains between two points. 5. Transfer stain -> Bloodstain resulting from contact between a blood-bearing surface and another surface. 6. Drip/Accompanying drop -> Bloodstain resulting from falling drop that formed due to gravity. Small blood drop produced as a by-product of drop formation. 7. Drip/Parent/Satellite stain -> Bloodstain resulting from falling drop that formed due to gravity. Bloodstain from which satellite stain originated. Smaller stain that originated during the formation of the parent stain as a result of blood impacting a surface.
U2Z8LY-5601	Item 5 is a complex pattern consisting of at least two cast-off patterns, a pattern transfer, three drip stains, and two areas of linear folds creating vertical-linear alterations in the stains along the left side of the target.
U7AMT2-5601	A transfer stain is present on the left side of the target. A second transfer stain is present near the top center area of the target. Three (3) drip stains are present on the left side of the target, on the bottom-center area of the target, and on the top-left area of the target. Two (2) cast-off patterns are present on the target. One (1) cast-off pattern extends across the target left and right and the other cast-off pattern extends across the target top and bottom.
U8746Y-5602	Item 5 contains three recognized bloodstain patterns. On the left half of the target is a TRANSFER STAIN - apparently in the shape of a bloody knife with the handle visible in the lower left quadrant and a possible transfer from the tip of the knife towards the center of the target. Additionally, across the target are two CAST-OFF PATTERNS. One is visible generally left/right in orientation, and the other is visible generally lower left/upper right in orientation. Finally, three DRIP STAINS are present on the target - one towards the center, one on the left edge, and one in the upper left quadrant.
UC2UBB-5602	We can observe three different patterns (drip stain, cast-off pattern, transfer stain). On the one hand, we can see three drip stains produced by gravity, and also some satellite stains around them. The big one of this satellite stain is located close to the drip stain settle at the bottom of the cardboard. On the other hand, there are two transfer pattern. It could be possible that this pattern had been transferred by a kind of knife according to the shape of the pattern. One of this

## TABLE 2 - Part 2: Recognition and Description

## Item 5, continued

WebCode-Test	Detailed Pattern Description
	pattern looks like as a knife handle, and the other as a knife point. Finally, we can see two cast-off patterns formed by several drip stains produced by an object in slow motion. It is possible to observe directionality in this pattern, two ways at least. Only as remark, in the upper drip stain of the cardboard (just below the word "hand") there is a void produced by some little sharp object.
V786K6-5605	There are two drip trails that cross each other in the middle of the board in an "X" pattern with impacts close to 90 degrees and size less than 3 mm. There are several larger near-90 degree drip stains with size of ~10 mm. There is also one transfer stain (~67 x 15 mm) on the left side of the board.
VG9HQX-5601	TRANSFER STAIN: Bloodstain resulting in the contact between a blood bearing surface and another surface. Distinct pattern and shape of knife handle observed with the tip of blade approximately four inches above and to the left. DRIP STAIN: Bloodstain resulting from a drop of blood forming and falling due to gravity. three large circular stains observed all with a diameter over ten millimeters (mm). There is a random distribution to the three stains with no observable linear orientation. Locations: left most edge (10 mm to right, 130 mm down); top left corner (75 mm to right, 40 mm down); lower middle (155 mm to right, 165 mm down). SPATTER STAIN: Bloodstain resulting from blood drops being dispersed through air due to an external force. Small circular stains ranging from 0.2 - 4.0 mm in diameter. Stains in a linear orientation across image from left to right approximately ninety millimeters down and from the bottom left to the top right corner. There are characteristics within the pattern similar to that of a Cast-off pattern and a Drip Trail pattern with both having linear orientations and no evidence of flow within the individual stains
VK9UKC-5602	There are two cast-off patterns from top right to bottom left and from left to right in a shape of a cross visible. There can be also some drip stains, mainly in the left side of he page, observed. In the middle of the left side there could also be a rectangular shaped transfer pattern observed.
VTKXM4-5605	Transfer staining and drip stains are observed on the left/center of the photo. Several cast-off stains are observed in a linear fashion across the center of the photo.
VUGDY2-5602	There are spatter stain as follows: Bloodstain pattern - a grouping of bloodstains that indicates through repetitive form order in which pattern was deposited. Drip stain - a bloodstain resulting from a falling drop that formed due to gravity. Smear stain - wipe pattern with void.
W4KVXB-5602	I examined Item 5 and observed the following: Cast-off patterns (at least two), transfer stains (possibly in the shape of a knife handle and blade tip), drip stains, and satellite stains.
WLYC24-5601	Three (3) drip stains, some with associated satellite stains, are located near the middle left edge, near the upper left corner, and near the bottom middle of the target. Two (2) transfer stains are present on the target. One (1) transfer stain is located near the middle left side of the target and one (1) transfer stain is located near the top middle edge of the target. More than one (1) cast-off patterns are present on the target. These cast-off patterns, with associated satellite stains, extend horizontally and vertically through the the middle of the target to the edges of the target.
WN9GGD-5601	The following bloodstain patterns were observed: A transfer stain measuring ~3 3/8 long and 5/8" to 3/4" wide on the left side of the photo. A transfer stain measuring ~ 1/2" by 5/16" near the top of the photo. Three drip stains on the left side and center of the photo. Two bloodstain patterns consistent with cast-off patterns extending across the photo
WNMXY-5601	Drip pattern, drip stain, drip tail, wipe pattern, smear stain transfer with void; bloodstain with satellite and bloodclot. Transfer stain, one elliptical stain with direction. There are spatter stain as follows: A drip pattern with a drip stain and a drip tail. There is transfer stain and blood to blood. Transfer pattern possibly caused by a sharp object. Void area with small triangle transfer pattern.
WTL3MY-5602	1. Transfer stain on left side of cardboard. Roughly rectangular in shape with two circular voids.

## TABLE 2 - Part 2: Recognition and Description

**Item 5, continued**

WebCode-Test	Detailed Pattern Description
WV8UTA-5601	<p>2. Irregular shaped bloodstain at top centre. 3. Three drip stains (bottom right, middle left and top centre). Bottom right stain includes a satellite stain approx 2 cm from parent stain. 4. At least two lines of cast-off staining (one roughly horizontal and other diagonal).</p> <p>Multiple drip stains - spatter with no linear orientation. Blood fell due to gravity. There is a random distribution and no radiating pattern. There is spatter in a linear pattern consistent with cast-off. Stains created when blood is released or being flung from an object in motion. Transfer stain of a knife-like object. Middle left shows the handle of the knife-like object; top right shows the tip of the knife-like object. Characteristics of a knife-like object is transferred in blood onto a clean surface. The bloodstain pattern is created due to a wet bloody object coming into contact with a clean surface and a portion of the bloody object is observed in the pattern.</p>
WXDEGA-5601	<p>Three distinct patterns observed. A number of cast-off patterns from left to right and top to bottom. Three drop stains with associated satellite stains. On left clear transfer pattern visible. Typically associated with a handle of a knife or other object. On bottom and top of transfer pattern two voids visible.</p>
WXF2Z9-5602	<p>There are 3 patterns displayed on target #5: There are 2 CAST-OFF PATTERNS consisting of several small spatters in a linear configuration. One was produced by movement Right to Left and the second cast-off pattern produced by movement top Right to bottom Left. There are 3 DRIP STAINS roughly 1 cm in diameter. One of the drip stains appears disrupted, possibly by blood dripping into blood. There is a TRANSFER STAIN that has the appearance of a blood covered knife, aprx 19.5 cm in length, contacting the surface and later removed. The outline consists of the knife handle and tip of the blade.</p>
WYLQWQ-5601	<p>There are multiple bloodstain patterns on the target. There appears to be (3) separate drip stains. These (3) stains are nearly perfectly round in shape and are larger than other round stains on the target. All (3) stains have scalloped edge characteristics; the drip stain in the lower middle area of the target has small tail/spine shaped satellite stains emanating from it. On the left middle and upper side of the target is a transfer pattern. The majority concentration of the stain fades in density from its left to right margin. The upper portion of the transfer stain has a uniform density. There are (2) linear patterns composed of smaller nearly circular drops with scalloped edge characteristics that pass from the top to the bottom of the target in opposing diagonal directions. The (2) patterns cross over each other in the middle of the target. Neither of the (2) patterns individual drops indicate any directionality or that a force had been applied to them. These (2) patterns are believed to be drip trails with smaller accompanying drops.</p>
X34794-5601	<p>Three (3) drip stains were observed on the left and lower middle of this target. A transfer stain(s) was noted on the left and upper middle of this target. Cast-off patterns were observed between the left and right side of this target and between the lower left hand corner and upper right hand corner of this target.</p>
X6QRUY-5601	<p>There are blood stains with satellites caused by blood on blood dripping from a source. There is a drip pattern with a drip trail caused by free falling drips from different distances due to the size, also the distance between the floor and object which the blood source was. There is a transfer pattern with a void area and a small triangular area possibly caused by a sharp object or knife. There is an elliptical stain caused by a puncture or strike to a area where the blood source</p>
X8VHW9-5601	<p>The following stains patterns were observed on the board: A stain with somewhat linear edge characteristics and various levels of concentration was noted along the left side of the board. This stain was approx. 90 x 20 mm in size and exhibited characteristics consistent with a transfer stain. Two small areas of void were noted within this stain. Two (2) circular stains, 13-15 mm in size and both exhibiting scalloped edge characteristics, were observed on the board. One of these stains is located to the left of the transfer stain and the other is located above it. These stains exhibited characteristics of drip stains. Two (2) patterns of spatter stains in a linear distribution were observed on the target. One of these patterns spanned between the right and</p>

## TABLE 2 - Part 2: Recognition and Description

## Item 5, continued

WebCode-Test	Detailed Pattern Description
	left edges of the board and the other pattern spanned between the upper and lower edges of the board. The stains in these patterns were predominantly circular, with some slightly elliptical, and 4-5 mm in diameter. These patterns exhibited characteristics consistent with cast-off patterns. The stains in the pattern between the right and left edges indicates a direction of deposition from right to left based on the gradual change in the shape of the stains from circular (right) to more elliptical (left). No conclusion was drawn as the direction of deposition of the other cast-off pattern. Two (2) other areas of staining were observed on the board: A somewhat circular stain was observed nearer the lower edge of the board. This stain has scalloped edge characteristics, but also has spines and a smaller elliptical stain which may be associated with its creation. While it appears to have characteristics of a drip stain, no conclusion was drawn as to the mechanism of deposition of this stain. An irregular stain with some characteristics of symmetry was noted near the upper edge of the board. No conclusion was drawn as to the mechanism of deposition of this stain.
XA6FGG-5602	Drip stains observed with apparent satellite stains for some of the blood stains. Cast-off pattern observed across the page of the image. Transfer stain (outline of an apparent handle) observed near the left side of the page, near the left hand ruler. Transfer stain (apparent triangle shape) observed near the top of the image. Apparent spatter stain near the middle of the image.
XD6QBV-5602	This target has multiple patterns present. Two spatter patterns that are linear in nature are observed without any directionality. Some of the individual spatters within the patterns exhibit satellite staining. One linear pattern is observed horizontally across the middle of the target and the other is observed vertically across the middle of the pattern. These two patterns criss-cross each other at the middle of the target and are consistent with cast-off patterns. On the left middle portion of the target is a non-spatter stain that appears to be from a blood-bearing object coming into contact with the target. The edge characteristics of the stain are defined further indicating a possible object such as a knife handle. This stain is consistent with a transfer stain. On the left 2/3 of the target are three spatter stains that are circular in nature consistent with drip stains. The edge characteristics of these stains appear to be scalloped and satellite staining can be observed around the stain towards the upper left corner of the target. A possible accompanying drop is noted to the right of the drip stain on the left middle area of the target. A non-descript spatter stain is observed towards the center of the target where the cast-off patterns cross. An additional non-uniform bloodstain is observed towards the upper center area of the target between a cast-off pattern and a drip stain.
XDG9LN-5602	Numerous blood stains were present on the piece of white cardboard. The blood staining included a transfer blood stain, cast off blood staining (2 x intersecting linear patterns), individual drip stains and accompanying drops, parent and satellite stains.
XEH2N3-5601	On the left side of the target a transfer stain is present. The transfer stain consists of two (2) parts and appears to be a tool/weapon in which the handle and tip are visible, but the mid-piece did not leave a visible stain (possibly not bearing any blood, or it did not make contact with the target). Three (3) drip stains, some with associated satellite stains, are present on the left side of the target, near/around the transfer stain. Cast-off patterns, with associated satellite stains, are present across the target (diagonal along the upper center to the bottom left and diagonal along the middle left, through the transfer stain, to the middle right - not necessarily the direction/order in which they were created).
XJTBDC-5602	The digital image (item # 1-1-5) depicts several different bloodstain patterns. A transfer pattern bloodstain with the overall appearance depicting the apparent shape of a knife handle and blade tip. This pattern was located to the left of center as depicted in the image. The transfer pattern is oriented diagonally with the handle end toward the lower left and the tip end toward the upper right. There is a void area between the transfer patterns of the handle and the blade tip. At least two cast-off patterns of bloodstains were observed. The cast-off patterns appear to cross each other diagonally. One pattern is oriented approximately horizontally (left to right and

## TABLE 2 - Part 2: Recognition and Description

## Item 5, continued

WebCode-Test	Detailed Pattern Description
XUAW3E-5601	<p>slightly downward). The other pattern is oriented diagonally (left to right and upward). Three drip stains were observed. Two of these stains were located to the left of center and the other stain was located slightly right of center as depicted in the image.</p> <p>One drip stain (upper left quadrant) and a slightly smaller drip stain (towards the bottom left) have an <math>\sim 90^\circ</math> of impact to the cardboard surface. A third drip stain is located towards the bottom-center portion of the cardboard has an <math>\sim 60^\circ</math> of impact to the cardboard surface. Satellite stains are noted for these drip stains. Two linear patterns consisting of smaller drops from left to right and top to bottom indicate the possibility of cast-off. The directionality of the cast-off patterns could not be determined based on the roundness of the stains. Satellite stains are also noted in several drops of the cast-off patterns. A transfer stain is noted in the left-hand side of the photo. A void is also noted towards the bottom of the transfer stain, which could be a characteristic from the item depositing the transfer stain.</p>
Y4WETR-5601	<p>This image consists of three distinctive patterns a transfer patterns, drip stains, and cast-off. There is no clear order of deposition of these patterns. The transfer pattern is located on the left side of the image running slightly diagonally from bottom left to upper center of the image. The overall size of the transfer pattern is 19.2cm long and 1.9cm wide. There is a 9.6cm gap in the transfer pattern separating a larger stain which is 8.7cm by 1.9cm in size from a smaller transfer pattern that is 11mm by 8mm in size. The larger stain has a heavier deposition of blood on the upper left portion and the smaller stain is uniform. No indications of movement were observed on this pattern. There are three drip stains distributed in a triangle shape on the left half of the image. The individual drip stains were 1.4cm in diameter covering a 16cm by 15cm area. Each of the drip stains has scalloping on the edges and the bottom center drip stain has some satellite stains. The cast-off pattern consists of two linear distributed circular to slightly elliptical stains. The overall pattern covers an area of 20cm by 50cm consisting of approximately 40 individual stains ranging in size from less than 1mm to 6mm by 5mm. The two lines of cast-off cross forming an X in the center of the image. One of the linear distributions runs from the lower left corner to the upper right corner and the other runs from the upper left to bottom right of the image.</p>
Y7H7Y3-5601	<p>The picture shows two drip trails. Three drip stains. Pattern transfer (probable an open knife) and the void with point tip of knife.</p>
YC7TP3-5605	<p>The patterns on the cardboard include two large drip stains in the upper left with some associated satellite stains. A transfer stain having a shape similar to a knife handle is just to the right of the two drip stains. A third drip stain is present near the center of the cardboard. A minimum of three cast off patterns are on the cardboard. Two of the cast off patterns are approximately parallel. These two patterns are oriented approximately perpendicular to the third cast off pattern.</p>
YGGWLW-5605	<p>Item 5 is a photograph of patterns on a white cardboard surface on a horizontal plane. There is a defect on the cardboard creating a line-shaped striation through several of the bloodstains. With the photograph in the proper orientation, are five (5) distinct patterns that intermingle with one another. The first three (3) patterns are drip stains. They all are circular in shape with regular, scalloped margins. They range in size from 14mm to 16mm in diameter. Two (2) of the drip stains have satellite spatter associated with them. The drip stains are all dark brownish-red in color. These stains indicate that a source of blood above the target surface dripped blood onto the surface in three (3) places. The next pattern is made up of two (2) separate stains with a void in between. The pattern has regular margins and a recognizable shape (that of a knife). The pattern is a dark brownish-red in color. There are several circular shaped stains in the "handle" area of the pattern. This is a transfer stain. It indicates that an object wet with blood was placed on the target surface and then removed. The last pattern is made up of numerous light reddish-brown stains, circular in shape, with regular margins. The stains range in size from &lt;1mm to 5mm in diameter. They are in roughly linear distributions that form an "X" shape. The pattern is made of at least two (2) drip trails. It is not possible to determine the directionality of</p>



## TABLE 2 - Part 2: Recognition and Description

**Item 5, continued**

WebCode-Test	Detailed Pattern Description
	the object that created these drip trails. These drip trails indicate a source of blood above the target was dripping blood as it moved across the target surface at least twice. Many of the stains in the drip trails had satellite spatter. It is not possible to sequence the patterns based on this photograph.
YGZK26-5602	(1) Drip Trail - A bloodstain pattern resulting from the movement of a source of drip stain between two points. (2) Drip stain - A bloodstain resulting from a falling drop that formed due to gravity. (3) Transfer stain - A bloodstain resulting from contact between a blood-bearing surface and another surface. (4) Void - An absence of blood in an otherwise continuous bloodstain or bloodstain pattern.
YHTHCX-5602	1.) Drip trail top to bottom: Bloodstain pattern resulting from the movement of a source of drip stain between 2 points. 2.) Pool: Bloodstain resulting from an accumulation of liquid blood on a surface. 3.) Drip/Parent/Satellite stain: Bloodstain resulting from falling drop that formed due to gravity. Bloodstain from which satellite stain originated. Smaller stain that originated during the formation of the parent stain as a result of blood impacting a surface. 4.) Drip trail right to left: Bloodstain pattern resulting from the movement of a source of drip stains between 2 points. 5.) Transfer stain: Bloodstain resulting from contact between a blood-bearing surface and another surface. 6.) Drip/Accompanying drop: Bloodstain resulting from falling drop that formed due to gravity. Small blood drop produced as a by-product of drop formation. 7.) Drip/Parent/Satellite stain: Bloodstain resulting from falling drop that formed due to gravity. Bloodstain from which satellite stain originated. Smaller stain that originated during the formation of the parent stain as a result of blood impacting a surface.
YKYW2C-5602	There are at least two cast-off patterns that cross each other. One pattern runs slightly diagonally from right towards upper left across the target. A second pattern runs vertically from lower left towards upper right. Unknown directionality for the second pattern. There are a minimum of three drip stains on the target. Two have satellite stains surrounding them. There is a transfer pattern towards the left side of the target that runs diagonally towards the upper right of the target, approximately 87mm in length. Approximately 97mm above this is a smaller, triangular shaped transfer.
YU3BJ4-5602	1) TRANSFER PATTERN FROM A POSSIBLE KNIFE HANDLE AND TIP OF THE BLADE. 2) 3X DRIP STAINS OF WHICH 1X PARENT STAIN WITH 1X SATILITE STAIN. 3) 2X CAST OF PATTERNS (LINEAR) THAT CROSS EACH OTHER.
YVJF8U-5601	A transfer stain with an apparent 'circular' shaped void within the transfer shape is present. A second (smaller) transfer stain located towards the top-centre of the photograph is also present. The second (smaller) transfer stain and the larger transfer stain containing the circular shaped void may be the result of transfer from the same implement, and hence, possibly a void area exists between the two transfer stains. Cast-off patterns are present (a minimum of two lineal distributions). Three drip stains are present, possibly forming a drip trail. One of the drip stains (bottom-centre of photo) has an apparent satellite stain near the parent stain.
YVJHQ7-5601	In the bottom left corner measuring approximately 90 mm to 175 mm, according to the reference ruler is a transfer pattern which is a bloodstain resulting from contact between a blood bearing surface and another surface. Also, at the top middle of the photograph at the 145mm marking on the ruler appears to be part of the transfer pattern. In the bottom left corner measuring approximately 121 mm to 136 mm is a drip stain which is a bloodstain resulting from a falling drop that formed due to gravity. In the top left portion of the photograph measuring approximately 70 mm to 85 mm is another drip stain. In the middle bottom portion of the photograph measuring approximately 170 mm to 185 mm is another drip stain. In the middle of the photograph moving horizontally is a drip trail, which is a bloodstain pattern resulting from the movement of a source of drip stains between two points. There is another drip trail which runs vertically in the middle of the photograph. These drip trails intersect with one another in the middle of the photograph.

## TABLE 2 - Part 2: Recognition and Description

## Item 5, continued

WebCode-Test	Detailed Pattern Description
YX4EBQ-5602	There are three (3) large drip stains. The drip stain in the center of the pattern has a satellite stain. There is a transfer on the left side of the pattern (possibly a knife). There are multiple drip trails that go across the pattern.
Z3EP67-5602	A swipe pattern is observed in the middle left portion of the surface. I did not feel this was a wipe pattern due to no pre-existing stains being observed within the pattern. Around the swipe pattern were three drip stains. Due to the circular shape of the stains, these stains hit the surface at an approximate 90 degree angle. At the top of the surface is a stain that contains irregular margins. This is consistent with a drip pattern where blood is dripping into a pre-existing bloodstain. In the middle of the surface are several linear drip trails going from side to side and top to bottom. There are some characteristics of the stains from the drip trail going from side to side showing movement going to the left side of the surface. There are also some characteristics of the drip trail from the top to bottom showing movement from the top to the bottom. I feel this pattern is a drip trail pattern because there are not any noticeable change in direction of the stains in the drip trails that you would expect to see in a cast-off pattern.
Z8U9BU-5602	3 circular stains, approximately 1.5 cm in diameter with satellite spatter s showing directionality emanating from larger stain. Stains are in centre of and t to left an t to left and top left of image. Therefore determined to be drip stains. rectangular shaped stain approximately 8cm in length and 2-3cm in width on left hand side of image and irregularly shaped stain at top of image. No spatter from mark/stain or apparent left or right hand movement in both stains and lack of feathering observed. Therefore determined to be a transfer stain. Overlapping patterns consisting of circular or partially elliptical stains. patterns overlap in centre of image. Most stains have satellite spatter emanating from each individual stain. Patterns are all grouped in separate linear configurations and therefore based on all information and lack of further context from areas surrounding image provided, determined to be cast-off off, with at least 2 patterns. off, with at least 2 patterns.
ZACJUR-5601	Two transfer stains towards left side of target separated by a void. Three drip stains with scalloped edge characteristics and associated satellite stains on the left side and towards the centre. Two linear cast off patterns which bi-sect each other at the centre of the target and extend between the left and right and upper and lower edges of the target.
ZGENT3-5601	In Item # 5 the target surface shows multiple blood stain patterns. I see two drip trails crossing each other which have produced several accompanying drops. I also see a transfer pattern with a rectangular edge characteristic, and some serum separation. Additionally, I see a small void in the transfer pattern. I noted several drip stains. One of the drip stains produced several satellite stains. Some of the stains show directionality.
ZPNZ2T-5601	There are two apparent cast-off patterns that cross each other near the middle of the image. There are three apparent drip stains: 1) near the middle of the left edge of the image; 2) in the lower middle portion of the image; 3) in the upper left portion of the image. There is an apparent satellite stain located near the center of the image. Near the left edge of the image, there is one elongated stain, approximately 9 cm long and 2 cm wide, consistent with a transfer stain possibly from a knife handle, with a small apparent circular void in the lower portion of the stain. There is a small triangular shaped stain located near the top center of the image that is aligned with the elongated stain. Assuming the elongated stain was produced by a knife handle, then the triangular stain may possibly be a transfer stain from the tip of the knife blade.
ZTLJ4R-5601	A - Transfer stain. B - Void. C - Drip Trail. D - Drip Trail. E - Drip Stain. F - Drip Stain (Parent Stain). G - Satellite Stains (From (F)). H - Parent Stain. I - Satellite Stain.

# Additional Comments

## TABLE 3

WebCode-Test	Additional Comments
2NQ3BX-5601	All references to blood are suspected blood until confirmed by DNA testing. This report was issued based on the information and evidence available to the analyst and may be subject to change as new information becomes available.
36UZQF-5601	A single impact patten is near the center of the image. The Area of convergence is located slightly to the right outside the picture.
4BCV4N-5605	Item #4: Proper evaluation of this bloodstain/pattern requires being able to examine the bloodstained fabric from both sides (front & back), being able to view the vinyl tile substrate under the bloodstained fabric, and a microscopic examination of the bloodstain on the fabric to see how the blood and the fabric interacted with each other. Without additional information and the ability to do a more thorough examination of the bloodstain/pattern on this piece of fabric, other possible mechanisms of deposition for the the blood onto the fabric cannot be excluded. The mechanisms for deposition that cannot be excluded are drip pattern, more than one drip stain falling onto the cloth in three separate locations and then flowing together as they absorb into the fabric, projected pattern (low force), splash pattern (low force), or transfer stain.
4LUA8Q-5605	1. The pattern in Item 5 does not look like a complete pattern and is cut off at the edges. Without all of the information for a pattern, it is more difficult to identify the pattern. 2. The method used to create the pattern is often visible and it is not the same as what the pattern is meant to represent. For example, in Item 5, there are small droplets that look like they contain bubble rings. These do not appear to be consistent with the patterns represented and look to be artifacts of dropping the blood onto the cardboard with a pipet(s). 3. No information is given regarding surface texture (e.g. smooth printed vinyl tile vs roughly textured vinyl tile). 4. Specifically for Item 5, the patterns do not appear related to each other or even consistent with what would be at a scene. Some frame of reference or scene information would be helpful. This information may also be helpful in evaluating the patterns in the provided photos/Items to determine if what I am looking at is an artifact of the pattern creation or consistent with a particular type of bloodstain pattern. 5. The quality of the scans are low. With minimal zooming, the blood stains become heavily pixelated. This was especially an issue with the drops/stains in Item 1. 6. The scan of Item 5 is also quite poor and has a scanning artifact running across the page and through the pattern that I have been asked to evaluate.
6G3D77-5601	The angle of impact is not typically determined as part of the laboratory's procedures.
6KF7BD-5601	THIS TEST ARE VERY IMPORTANT FOR ME LIKE A FORENSIC INVESTIGATOR IN [Country]. THIS HELP MY MIND TO MANTAIN AND REFRESH THE BLOODSPATTERN ANALIZE A DESCRIPTION IN A CRIME SECENE.THANK YOU.
72JCP7-5601	A definition for each of the terms used to describe the bloodstains would normally be provided in the report/statement.
7WN88V-5601	Item 4 could be a drip pattern, resulting from multiple drops of blood on the cloth. It could also be a transfer stain, i.e. blood on the vinyl tile transferred onto the cloth.This can be differentiated at the crime scene by examining the vinyl surface below the heart-shaped pattern. Additionally, the type and construction of the fabric, the folds on the fabric etc would affect the appearance of the pattern. Hence, it may be useful to provide information regarding the density of the weave, the type of fabric, and whether the bloodstained area beneath the cloth was in contact with the vinyl tile for conducting simulation experiments.
8L72UR-5601	The following comments would be included in the report: All references to blood are suspected blood until confirmed by DNA testing. This report was issued based on the information and evidence available to the analyst and may be subject to change as new information becomes available.
9N9JAY-5601	Transfer stain appears to be of a knife handle and blade tip. At least 2 different drip trails. Three drip stains.

TABLE 3

WebCode-Test	Additional Comments
ANLHYG-5605	it would be helpful if the images printed "to scale" as I don't have the capability to calibrate images with my computer.
CJZART-5602	The linear patterns in Item 5 with the circular 90 degree stains, ranging in size from approximately 1 millimeter to 5 millimeters show no elliptical stains which is more consistent with a cast-off pattern. However, due to experiments performed these size, shape and distribution of stains were only observed when a cast-off type pattern was made, therefore, the linear patterns in Item 5 appear to be a type of cast-off pattern.
CVX4BH-5605	The classification of the blood stain on Item 2 was done in accordance with the conclusions reported in The Reliability of Wipe/Swipe Classification and Directionality Determination Methods in Blood stain Pattern Analysis published in the J Forensic Sci, 2017 doi:10.1111/1556-4029.13298. This publication indicated the difficulty in determining if a pattern was a swipe or a wipe and indicated an overall error rate of 32% within the study carried out.
DPKWTC-5601	Larger transfer stain is possibly physically altered by dilution/wetting, however stain appearance could possibly be as a result of deposition on target surface.
DUJWMF-5601	There is some disruption to the overall appearance of the uppermost larger drip stain and the large linear transfer stain. This disruption may be due to some irregularities in the target surface, such as a fold. The source of the small drip stains was most likely to have been moving in a linear direction above the horizontal plane. There are two distinctly different sized drip stains. It could not be excluded that these stains originated from two different sources. No features were observed in the drip stains that could clearly give an indication of directionality. A bloody knife could not be excluded as the source of the transfer stains given their shape and proximity. The handle forming the larger linear impression with a small void and the tip forming the triangular shape. From the image received it was not possible to determine the sequence of deposition (ie. whether the transfer stain was formed before or after the drip staining).
DW388C-5601	The spots of blood appear to possibly form an X - type pattern, however we cannot determine directionality.
FPHN34-5605	In the second linear pattern described in the point 3 of the item 5 in my opinion and in the most optimistic of the scenarios there are a slightly change in the shape and therefore in the angle of impact (more acute) in the stains located in the left side, in addition the stains have consistent directional angles suggesting a possible cast-off pattern whose direction goes from right to left and slightly upwards.
FTWK7K-5601	There's no directionality to the small possible cast off spatters. They could just be dripping off the end of some bloody object being held directly above this surface, moving slowly above.
GNJVQG-5602	There also appears to be some sort of artifact on board. There is a crease or similar mark which spans from the top to the bottom of the board crossing over the larger transfer pattern and the uppermost drip stain. A similar yet lighter line is also seen on the right side of the board.
GPA4R7-5605	[Laboratory] do not perform angle of impact determination, therefore section I of this trial has not been completed.
GTWRGC-5602	Sub-mm spatter, not discussed above, is present (in the image) which is characteristic of satellite spatter. One cast-off stain adjoins the larger transfer bloodstain. The perimeter of the cast-off partially covers a section of the perimeter of the transfer bloodstain, but there is insufficient overlay and stain characteristics to confidently sequence the deposition.
GWC7XR-5602	Measurements for angle calculations were taken using the ellipse tool in powerpoint with the measurements set to metric (scales in photo not used). Measurements for the patterns were taken using powerpoint shape tools and directly measuring off the scales in the photo.
GWD49M-5601	Given the high error rate when making determinations of swipe versus wipe, as published in the JFS July 2017 Vol. 62, No 4, I have utilized the overarching and more conservative classification of "transfer." I do not believe enough information is available for an accurate, supported,

TABLE 3

WebCode-Test	Additional Comments
	determination.
HBMBG4-5601	I would have reported the follow angles for section 1: A = $31 \pm 1^\circ$ ; B = $12 \pm 1^\circ$ ; C = $20 \pm 1^\circ$ ; D = $20 \pm 1^\circ$ ; E = $16 \pm 1^\circ$ .
HELRQC-5602	For section 1: angle of impact determination, the formula is as follows: $\sin A = \text{width of bloodstain} / \text{length of bloodstain}$
KVPWGL-5601	In Section II Part 1 Item 4 (Fabric on vinyl tile), it would be beneficial to see both sides of the fabric to ensure an accurate call is made.
KWLCPC-5602	Thank you for using larger volumes for the stains in Item:1 - Angle of Impact. The cast-off patterns for Section II: Pattern Description are not typical of cast-off patterns. There was not enough force applied and not enough space from the target to the object, or along the path, to produce the characteristics seen for cast-off.
LR9QJQ-5601	A small transfer is located at the upper central area
LWDWPG-5601	Blood stain - pattern analysis is used to study bloodstains and crime scene in order to draw conclusion about nature, timing and other details of crime.
MDHGAQ-5601	In one instance there may be two drip stains with one almost on top of each other but not sufficient for me to consider it a drip pattern. With only one photograph showing possible cast-off patterns, an additional photograph showing the entire pattern would be beneficial.
P8LT7G-5601	I did not complete the angle of impact determination section because we do not perform that analysis at my laboratory.
PNCJHD-5601	Object: Object with linear edges, the two edges are 52 mm apart, which created linear patterns, parallel to one another, vertical to image. The same linear patterns are observed on the right of image the two edges are 58 mm apart, vertical to image. Sequence: The cast-off patterns were created before the transfer bloodstains were created. During the creation of the transfer bloodstains, the blood was transferred onto the surface, but at the edge near circular shaped blood drop which forms part of the cast-off pattern, the blood flowed around the spatter bloodstain. One spatter stain visible within transfer bloodstain (handle of knife), which further suggest the cast-off pattern was created before the transfer bloodstain. Drip bloodstains in middle of image, suggest the drip bloodstains were created after the linear transfer bloodstain, or simultaneously.
Q9C24Y-5601	The transfer stain appears to be from a small-handled knife. The smaller drip trails are consistent with blood dripping from the tip of a knife blade or smaller object.
QL6TH2-5605	There is some indications that the direction of the cast off pattern across the target is moving from right to left. No indications of directionality were observed in the other cast off pattern.
QM9F4R-5601	Section II: Pattern Description, Item 3: Our laboratory does not recognize or use the term "cessation cast-off pattern" due to the disagreement regarding the term in the blood stain field. Item 3 falls into the definition of "cessation cast-off pattern" and appears likely related to "cast-off pattern" or "drip pattern due to the horizontal surface.
T8R8D9-5601	All stains resulting from moving over the cardboard of blood-covered object and moving the object to the cardboard.
TUA8RF-5602	For Item 1: Angle of Impact Determination, PowerPoint was used to discern stain sizes. Therefore, the measurements documented for the length and width of each stain are not in mm and were used solely as a ratio to calculate the angle.
WN9GGD-5601	Section 1 not completed-lab does not perform this analysis
WTL3MY-5602	There appears to be a crease running vertically down the cardboard on the left hand side.
X8VHW9-5601	Regarding Item 4: Creating stains on fabric creates challenges for the examiner since it is

TABLE 3

WebCode-Test	Additional Comments
	<p>understood that fabric can in some cases drastically change the resulting stain that is observed (e.g., single adjacent drip stains can "wick" or absorb together and create a single larger stain.) In the future, if choosing fabric as a target substrate, I would recommend providing the examiner with the construction and composition of the fabric (e.g., 100% cotton, woven OR 100% polyester, knit), as well as multiple photographs. These photographs should include the underside of the stained area along with photomicrographs of potential spatter stains. Regarding Item 5: Linear defects were noted on the board. In some case, stains appeared to "cross over" these defects. It was unclear if these defects were a function of the photography or reproduction.</p>
XA6FGG-5602	<p>For item 4 - observed a very small reddish-brown stain on the tile surface, located near the top center and below the ruler. For item 5 - apparent vertical linear line observed at ~74mm from the top ruler, the defect appears across two bloodstains. Possible uneven surface observed.</p>
XDG9LN-5602	<p>The transfer pattern is fitting with a heavily bloodstained handle of a knife or similar object.</p>
Y7H7Y3-5601	<p>Drip trail is a blood stain pattern resulting from the movement of a source of drip strains between two points as in item 5. Drip stain is bloodstain resulting from a falling drop that formed as a results of force of gravity. Transfer stain is bloodstain resulting from contact between blood-bearing surface and another surface. Void is an absence of blood continuous bloodstain or pattern.</p>
ZTLJ4R-5601	<p>See the attached copy of Item 5 for markings mentioned above [attachment not returned].</p>

# Appendix: Data Sheet

Collaborative Testing Services ~ Forensic Testing Program

## **Test No. 17-5601: Bloodstain Pattern Analysis**

DATA MUST BE RECEIVED BY August 21, 2017 TO BE INCLUDED IN THE REPORT

Participant Code:

WebCode:

### **Accreditation Release Statement**

CTS submits external proficiency test data directly to ASCLD/LAB, ANAB, and/or 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, or A2LA.

**This test is divided into two sections: Angle of Impact Determination and Pattern Description.**

Items Submitted (Sample Pack BSP - Photographs):

**Item 1:** Angle of Impact Determination (Stains A through E)

**Items 2 - 4:** Pattern Description: Part 1

**Item 5:** Pattern Description: Part 2

**Appendix:** Suggested Terminology Glossary

**Section I: ANGLE OF IMPACT DETERMINATION**

**Item 1** - Examine bloodstains A through E and report the length and width of each stain, along with the calculated angle of impact. For all stains, the blood was dropped from a pipette onto white coated posterboard targets at predetermined angles from the vertical.

Please report a single value for each measurement/calculation, not a range of values.

<u>Stain</u>	<u>Width (mm)</u>	<u>Length (mm)</u>	<u>Angle of Impact (degrees)</u>
<b>A</b>	<input style="width: 100%; height: 20px;" type="text"/>	<input style="width: 100%; height: 20px;" type="text"/>	<input style="width: 100%; height: 20px;" type="text"/>
<b>B</b>	<input style="width: 100%; height: 20px;" type="text"/>	<input style="width: 100%; height: 20px;" type="text"/>	<input style="width: 100%; height: 20px;" type="text"/>
<b>C</b>	<input style="width: 100%; height: 20px;" type="text"/>	<input style="width: 100%; height: 20px;" type="text"/>	<input style="width: 100%; height: 20px;" type="text"/>
<b>D</b>	<input style="width: 100%; height: 20px;" type="text"/>	<input style="width: 100%; height: 20px;" type="text"/>	<input style="width: 100%; height: 20px;" type="text"/>
<b>E</b>	<input style="width: 100%; height: 20px;" type="text"/>	<input style="width: 100%; height: 20px;" type="text"/>	<input style="width: 100%; height: 20px;" type="text"/>

**Please return all pages of this data sheet.**

Page 1 of 4

**Section II: PATTERN DESCRIPTION**

**NOTE: The Pattern Description section is divided into two parts. Please read the instructions carefully prior to filling out the data sheet.**

**Part 1 - Mechanism of Deposition:** For each of the following patterns, indicate the **single** pattern type that best describes the mechanism of deposition. Although you may use different terminology in your casework, in order to standardize responses for this exercise, please make your selection using the terminology provided.

**Item 2: Target is a ceramic tile in the vertical plane.**

<input type="checkbox"/> Cast-off Pattern	<input type="checkbox"/> Impact Pattern	<input type="checkbox"/> Splash Pattern
<input type="checkbox"/> Cessation Cast-off Pattern	<input type="checkbox"/> Mist Pattern	<input type="checkbox"/> Swipe Pattern
<input type="checkbox"/> Drip Pattern	<input type="checkbox"/> Projected Pattern	<input type="checkbox"/> Transfer Stain
<input type="checkbox"/> Drip Stain	<input type="checkbox"/> Saturation Stain	<input type="checkbox"/> Wipe Pattern
<input type="checkbox"/> Expiration Pattern		

**Item 3: Target is a vinyl tile in the horizontal plane.**

<input type="checkbox"/> Cast-off Pattern	<input type="checkbox"/> Impact Pattern	<input type="checkbox"/> Splash Pattern
<input type="checkbox"/> Cessation Cast-off Pattern	<input type="checkbox"/> Mist Pattern	<input type="checkbox"/> Swipe Pattern
<input type="checkbox"/> Drip Pattern	<input type="checkbox"/> Projected Pattern	<input type="checkbox"/> Transfer Stain
<input type="checkbox"/> Drip Stain	<input type="checkbox"/> Saturation Stain	<input type="checkbox"/> Wipe Pattern
<input type="checkbox"/> Expiration Pattern		

**Item 4: Target is a vinyl tile containing white cotton fabric in the horizontal plane.**

<input type="checkbox"/> Cast-off Pattern	<input type="checkbox"/> Impact Pattern	<input type="checkbox"/> Splash Pattern
<input type="checkbox"/> Cessation Cast-off Pattern	<input type="checkbox"/> Mist Pattern	<input type="checkbox"/> Swipe Pattern
<input type="checkbox"/> Drip Pattern	<input type="checkbox"/> Projected Pattern	<input type="checkbox"/> Transfer Stain
<input type="checkbox"/> Drip Stain	<input type="checkbox"/> Saturation Stain	<input type="checkbox"/> Wipe Pattern
<input type="checkbox"/> Expiration Pattern		

**Please return all pages of this data sheet.**

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**Section II: PATTERN DESCRIPTION cont.**

**Part 2 - Recognition and Description:** For the following pattern, please write a brief description using the Suggested Terminology Glossary provided in the Appendix. Although you may use different terminology in your casework, in order to standardize responses for this exercise, please write your description using the suggested terminology.

**Note: This part of the test is not a reconstruction of a scenario, but simply a test of pattern recognition and description.**

**Item 5: Target is a piece of white cardboard in the horizontal plane.**

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**Additional Comments**

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**Return Instructions:** Data must be received via online data entry, fax (please include a cover sheet), or mail by **August 21, 2017** to be included in the report. Emailed data sheets are not accepted.

**QUESTIONS?**

TEL: +1-571-434-1925 (8 am - 4:30 pm EST)  
EMAIL: [forensics@cts-interlab.com](mailto:forensics@cts-interlab.com)  
[www.ctsforensics.com](http://www.ctsforensics.com)

Participant Code:  
ONLINE DATA ENTRY: [www.cts-portal.com](http://www.cts-portal.com)  
FAX: +1-571-434-1937  
MAIL: Collaborative Testing Services, Inc.  
P.O. Box 650820  
Sterling, VA 20165-0820 USA

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## 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. **17-5601: Bloodstain Pattern Analysis**

This release page must be completed and received by **August 21, 2017** 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**

**\*\* NOTE: Per the request of ASCLD/LAB, do not complete the ASCLD/LAB release section below if your laboratory is not accredited in the category of testing Bloodstain Pattern Analysis. \*\***

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) \_\_\_\_\_

**Return Instructions****Accreditation Release**

*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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## Appendix: Suggested Terminology Glossary\*

<b>Accompanying Drop</b>	A small blood drop produced as a by-product of drop formation.
<b>Altered Stain</b>	A bloodstain with characteristics that indicate a physical change has occurred.
<b>Angle of Impact</b>	The acute angle (alpha), relative to the plane of a target, at which a blood drop strikes the target.
<b>Area of Convergence</b>	The area containing the intersections generated by lines drawn through the long axes of individual stains that indicates in two dimensions the location of the blood source.
<b>Area of Origin</b>	The three-dimensional location from which spatter originated.
<b>Backspatter Pattern</b>	A bloodstain pattern resulting from blood drops that traveled in the opposite direction of the external force applied; associated with an entrance wound created by a projectile.
<b>Blood Clot</b>	A gelatinous mass formed by a complex mechanism involving red blood cells, fibrinogen, platelets, and other clotting factors.
<b>Bloodstain</b>	A deposit of blood on a surface.
<b>Bloodstain Pattern</b>	A grouping or distribution of bloodstains that indicates through regular or repetitive form, order, or arrangement the manner in which the pattern was deposited.
<b>Bubble Ring</b>	An outline within a bloodstain resulting from air in the blood.
<b>Cast-off Pattern</b>	A bloodstain pattern resulting from blood drops released from an object due to its motion.
<b>Cessation Cast-off Pattern</b>	A bloodstain pattern resulting from blood drops released from an object due to its rapid deceleration.
<b>Directional Angle</b>	The angle (gamma) between the long axis of a spatter stain and a defined reference line on the target.
<b>Directionality</b>	The characteristic of a bloodstain that indicates the direction blood was moving at the time of deposition.
<b>Drip Pattern</b>	A bloodstain pattern resulting from a liquid that dripped into another liquid, at least one of which was blood.
<b>Drip Stain</b>	A bloodstain resulting from a falling drop that formed due to gravity.
<b>Drip Trail</b>	A bloodstain pattern resulting from the movement of a source of drip stains between two points.
<b>Edge Characteristic</b>	A physical feature of the periphery of a bloodstain.
<b>Expiration Pattern</b>	A bloodstain pattern resulting from blood forced by airflow out of the nose, mouth, or a wound.

## Test No. 17-5601/2/5 Data Sheet, continued

## Appendix: Page 2 of 2

<b>Flow Pattern</b>	A bloodstain pattern resulting from the movement of a volume of blood on a surface due to gravity or movement of the target.
<b>Forward Spatter Pattern</b>	A bloodstain pattern resulting from blood drops that traveled in the same direction as the impact force.
<b>Impact Pattern</b>	A bloodstain pattern resulting from an object striking liquid blood.
<b>Insect Stain</b>	A bloodstain resulting from insect activity.
<b>Mist Pattern</b>	A bloodstain pattern resulting from blood reduced to a spray of micro-drops as a result of the force applied.
<b>Parent Stain</b>	A bloodstain from which a satellite stain originated.
<b>Perimeter Stain</b>	An altered stain that consists of the peripheral characteristics of the original stain.
<b>Pool</b>	A bloodstain resulting from an accumulation of liquid blood on a surface.
<b>Projected Pattern</b>	A bloodstain pattern resulting from the ejection of a volume of blood under pressure.
<b>Satellite Stain</b>	A smaller bloodstain that originated during the formation of the parent stain as a result of blood impacting a surface.
<b>Saturation Stain</b>	A bloodstain resulting from the accumulation of liquid blood in an absorbent material.
<b>Serum Stain</b>	The stain resulting from the liquid portion of blood (serum) that separates during coagulation.
<b>Spatter Stain</b>	A bloodstain resulting from a blood drop dispersed through the air due to an external force applied to a source of liquid blood.
<b>Splash Pattern</b>	A bloodstain pattern resulting from a volume of liquid blood that falls or spills onto a surface.
<b>Swipe Pattern</b>	A bloodstain pattern resulting from the transfer of blood from a blood-bearing surface onto another surface, with characteristics that indicate relative motion between the two surfaces.
<b>Target</b>	A surface onto which blood has been deposited.
<b>Transfer Stain</b>	A bloodstain resulting from contact between a blood-bearing surface and another surface.
<b>Void</b>	An absence of blood in an otherwise continuous bloodstain or bloodstain pattern.
<b>Wipe Pattern</b>	An altered bloodstain pattern resulting from an object moving through a preexisting wet bloodstain.

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\* As established by the Scientific Working Group on Bloodstain Pattern Analysis (SWGSTAIN) - April 2009