



# Bloodstain Pattern Analysis

## Test No. 16-560/561 Summary Report

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This test was sent to 275 participants. Each sample pack consisted of either photos (16-560) or a DVD (16-561) containing images of bloodstains for determination of Angle of Impact and Pattern Description. Data were returned from 239 participants (150 for 16-560 and 89 for 16-561 - 87% response rate) and are compiled into the following tables:

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

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

## Manufacturer's Information

Each sample set contained 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 (560) or DVD (561) 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.

### 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. Targets (white posterboard) were placed on an inclined plane at the following predetermined angles from the vertical:

<u>Stain</u>	<u>Preparation Angle</u>
A	35.1°
B	13.2°
C	15.0°
D	27.8°
E	15.2°

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 small pool of blood was deposited onto the target. A closed fist was swung forcefully down into the blood pool.
- Pattern 3: A screwdriver tip was dipped into blood, coating the bottom ~1" of tool. The screwdriver was then swung in a straight line over top of the target. The tool was swung back and forth several times, redipping the tip in blood prior to each swing.
- Pattern 4: The sleeve of a Tyvek lab coat was dipped into blood while being worn, coating it from elbow to wrist, as well as the side of the wearer's hand. The sleeve was pressed directly onto the target, then gently pulled away.
- Pattern 5: A small area of the target was covered with a sticky note prior to blood deposition. A pipette filled with blood was ejected at the target from an upward angle several times. Three dry fingers were passed through the wet blood moving down toward the sticky note. The sticky note was 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 or images on a DVD.

## 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	35.1°	34.76°	2.27
B	13.2°	14.37°	1.57
C	15.0°	14.88°	1.27
D	27.8°	27.10°	2.13
E	15.2°	16.56°	1.60

## Pattern Description

The pattern description was divided into two separate parts. Part one consisted of three patterns (two horizontal targets on vinyl tile, one vertical target on white foamboard), 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 vertical target on white foamboard, 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, 93% of participants reported "Impact Pattern". The second and third most common responses were "Projected Pattern" and "Splash Pattern". These are all active patterns that are influenced by force on a blood source. For Item 3, 78% of participants reported "Cast-Off Pattern", while other repeated identifications were "Drip Stain" and "Drip Pattern" due to minimal elliptical shaping of the linear blood drops. For Item 4, over 99% of participants reported "Transfer Stain"; one participant identified the pattern as both a "Transfer Stain" and a "Wipe Pattern", which did not fulfill the requirements of the question. For Item 5, the majority of participants reported the following distinct pattern types: Projected Pattern, with many noting associated satellite stains from the force of deposition; Flow Pattern, as a result of the volume of blood moving down the target due to gravity; Wipe Pattern, with the observation of three objects moving through the wet flow patterns from left to right; and Void, where a visible absence of blood was noted at the ends of the flow patterns.

Beginning in 2017, all single-method Mechanism of Deposition items will be produced on larger targets. These targets will be provided in 11"x14" photographs to offer more of the pattern detail for analysis than in previous tests. This change comes as a result of ongoing requests by participants to receive more of the pattern area, as essential elements may be missing due to cropping.

# 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	
224JP7-561	2.30	-0.02	-0.15	3.90	-0.17	-1.10	36.77	1.98	0.84	36.14
296VL3-561	8.00	5.68	42.67 X	14.00	9.93	63.32 X	35.00	0.21	0.09	34.85
2DV6UF-561	2.00	-0.32	-2.41	4.00	-0.07	-0.47	30.00	-4.79	-2.03	30.00
2K3LD2-561	2.25	-0.07	-0.53	3.75	-0.32	-2.06	37.00	2.21	0.94	36.87
2KELAW-561	2.50	0.18	1.35	4.00	-0.07	-0.47	39.00	4.21	1.78	38.68
2KWNR6-561	2.20	-0.12	-0.91	4.10	0.03	0.17	32.50	-2.29	-0.97	32.45
2RXZPM-560	2.30	-0.02	-0.15	4.10	0.03	0.17	34.00	-0.79	-0.33	34.12
2UPMVW-561	2.60	0.28	2.10	4.10	0.03	0.17	39.00	4.21	1.78	39.36
36ZLRC-560	2.50	0.18	1.35	4.00	-0.07	-0.47	38.70	3.91	1.66	38.68
3ARV3B-561	2.30	-0.02	-0.15	3.90	-0.17	-1.10	36.10	1.31	0.56	36.14
3GBY8R-560	2.30	-0.02	-0.15	4.40	0.33	2.09	31.50	-3.29	-1.39	31.52
3LT8JX-560	2.27	-0.05	-0.38	4.09	0.02	0.11	34.00	-0.79	-0.33	33.71
3QJT46-560	2.40	0.08	0.60	4.40	0.33	2.09	33.06	-1.73	-0.73	33.06
3UH6Z6-561	2.00	-0.32	-2.41	4.00	-0.07	-0.47	30.00	-4.79	-2.03	30.00
3VDM27-560	2.30	-0.02	-0.15	4.10	0.03	0.17	34.10	-0.69	-0.29	34.12
49VYQL-560	2.40	0.08	0.60	4.30	0.23	1.45	33.90	-0.89	-0.38	33.93
4DBA4P-560	2.40	0.08	0.60	4.20	0.13	0.81	34.80	0.01	0.00	34.85
4DLED8-560	2.40	0.08	0.60	4.20	0.13	0.81	34.84	0.05	0.02	34.85
4G72CL-561	2.50	0.18	1.35	4.50	0.43	2.72	33.78	-1.01	-0.43	33.75
4H2KDN-561	2.40	0.08	0.60	4.30	0.23	1.45	33.92	-0.87	-0.37	33.93
4HG4XK-560	2.30	-0.02	-0.15	4.00	-0.07	-0.47	35.10	0.31	0.13	35.10
4JF7RV-560	2.30	-0.02	-0.15	4.20	0.13	0.81	33.20	-1.59	-0.67	33.20
4LFEUK-560	2.15	-0.17	-1.28	3.65	-0.42	-2.70	36.00	1.21	0.51	36.09
4P92YV-561	2.40	0.08	0.60	4.40	0.33	2.09	33.00	-1.79	-0.76	33.06

TABLE 1  
Stain A, continued

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
6CXX4Y- 561	2.40	0.08	0.60	4.30	0.23	1.45	34.00	-0.79	-0.33	33.93
6FCLMW- 560	2.37	0.05	0.37	4.25	0.18	1.13	34.00	-0.79	-0.33	33.89
6KLNN7- 560	3.00	0.68	5.10 X	4.00	-0.07	-0.47	39.00	4.21	1.78	48.59 X
6TWAAF- 560	2.30	-0.02	-0.15	4.00	-0.07	-0.47	34.40	-0.39	-0.16	35.10
6WVL8Z- 561	2.50	0.18	1.35	4.00	-0.07	-0.47	39.00	4.21	1.78	38.68
727YMD- 560	2.30	-0.02	-0.15	3.69	-0.38	-2.44	39.00	4.21	1.78	38.56
7CPFFK- 561	2.60	0.28	2.10	4.00	-0.07	-0.47	41.00	6.21	2.63	40.54
7DKYHL- 561	2.37	0.05	0.37	3.64	-0.43	-2.76	40.62	5.83	2.47	40.62
7PWAXP- 560	2.39	0.07	0.52	4.00	-0.07	-0.47	36.60	1.81	0.77	36.69
7R6P6V- 561	2.20	-0.12	-0.91	4.00	-0.07	-0.47	33.00	-1.79	-0.76	33.37
7VKZHY- 560	2.35	0.03	0.22	3.88	-0.19	-1.23	37.00	2.21	0.94	37.28
8AUC34- 561	2.30	-0.02	-0.15	3.90	-0.17	-1.10	36.00	1.21	0.51	36.14
8G2ULQ- 561	2.10	-0.22	-1.66	4.00	-0.07	-0.47	32.00	-2.79	-1.18	31.67
8GGYWA- 560	2.20	-0.12	-0.91	3.90	-0.17	-1.10	34.00	-0.79	-0.33	34.34
8KVHC6- 560	2.30	-0.02	-0.15	4.10	0.03	0.17	34.10	-0.69	-0.29	34.12
8LBWLZ- 560	2.30	-0.02	-0.15	4.00	-0.07	-0.47	35.09	0.30	0.13	35.10
8VDGM8- 560	2.20	-0.12	-0.91	3.90	-0.17	-1.10	34.00	-0.79	-0.33	34.34
8W9WY6- 561	2.40	0.08	0.60	4.00	-0.07	-0.47	37.00	2.21	0.94	36.87
98P4BY- 561	2.08	-0.24	-1.81	4.03	-0.04	-0.27	31.00	-3.79	-1.60	31.07
9D97FF- 561	2.30	-0.02	-0.15	4.00	-0.07	-0.47	35.00	0.21	0.09	35.10
9H7VU2- 560	2.40	0.08	0.60	3.80	-0.27	-1.74	39.20	4.41	1.87	39.17
9HRERL- 560	2.33	0.01	0.07	4.11	0.04	0.24	34.56	-0.23	-0.10	34.54
9P6ALV- 561	2.40	0.08	0.60	4.10	0.03	0.17	35.80	1.01	0.43	35.83
9PQQ3X- 561	2.37	0.05	0.37	4.09	0.02	0.11	35.40	0.61	0.26	35.41

TABLE 1  
Stain A, continued

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
9T6LHV-561	2.40	0.08	0.60	4.30	0.23	1.45	34.00	-0.79	-0.33	33.93
9VT3R3-560	2.35	0.03	0.22	4.07	0.00	-0.02	35.30	0.51	0.22	35.27
9W6MTP-560	2.00	-0.32	-2.41	4.00	-0.07	-0.47	30.00	-4.79	-2.03	30.00
A3BJCP-560	2.40	0.08	0.60	3.80	-0.27	-1.74	39.20	4.41	1.87	39.17
A9GD7L-560	2.35	0.03	0.22	4.25	0.18	1.13	33.57	-1.22	-0.52	33.57
AEL3LK-560	2.40	0.08	0.60	4.20	0.13	0.81	34.80	0.01	0.00	34.85
AEYRLC-560	2.40	0.08	0.60	4.00	-0.07	-0.47	36.90	2.11	0.89	36.87
AG8VKU-560	2.30	-0.02	-0.15	4.10	0.03	0.17	34.10	-0.69	-0.29	34.12
AMCNPX-560	2.40	0.08	0.60	4.30	0.23	1.45	34.00	-0.79	-0.33	33.93
AMDGM6-560	2.50	0.18	1.35	4.00	-0.07	-0.47	38.70	3.91	1.66	38.68
AN98GQ-560	2.32	0.00	0.00	3.93	-0.14	-0.91	36.00	1.21	0.51	36.18
AVLD3W-561	2.40	0.08	0.60	4.00	-0.07	-0.47	36.90	2.11	0.89	36.87
AVTBNT-560	2.00	-0.32	-2.41	4.00	-0.07	-0.47	30.00	-4.79	-2.03	30.00
AWNQZQ-561	2.30	-0.02	-0.15	4.00	-0.07	-0.47	35.00	0.21	0.09	35.10
AYMD6E-560	2.40	0.08	0.60	4.60	0.53	3.36 X	31.45	-3.34	-1.41	31.45
BCATWK-560	2.20	-0.12	-0.91	3.80	-0.27	-1.74	35.30	0.51	0.22	35.38
BEEB7A-561	2.20	-0.12	-0.91	4.00	-0.07	-0.47	34.00	-0.79	-0.33	33.37
BHEM3A-560	2.30	-0.02	-0.15	3.90	-0.17	-1.10	36.00	1.21	0.51	36.14
BJ967V-561	2.40	0.08	0.60	4.20	0.13	0.81	34.70	-0.09	-0.04	34.85
BKL2AF-561	2.30	-0.02	-0.15	4.10	0.03	0.17	34.00	-0.79	-0.33	34.12
BXTMYZ-560	2.30	-0.02	-0.15	4.10	0.03	0.17	34.00	-0.79	-0.33	34.12
C69T9C-561	2.00	-0.32	-2.41	3.50	-0.57	-3.66 X	34.80	0.01	0.00	34.85
C7GJ3A-560	2.40	0.08	0.60	3.90	-0.17	-1.10	40.00	5.21	2.21	37.98
CAH7QA-560	2.40	0.08	0.60	4.40	0.33	2.09	33.10	-1.69	-0.71	33.06



TABLE 1  
Stain A, continued

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
CJ66GF-561	2.30	-0.02	-0.15	3.90	-0.17	-1.10	36.14	1.35	0.57	36.14
CJN2XL-560	2.32	0.00	0.00	4.02	-0.05	-0.34	35.00	0.21	0.09	35.25
CQ223X-560	2.50	0.18	1.35	4.20	0.13	0.81	36.50	1.71	0.72	36.53
CQPZMQ-561	10.00	7.68	57.69 X	20.00	15.93	101.59 X	30.00	-4.79	-2.03	30.00
CQRXTF-561	2.35	0.03	0.22	4.12	0.05	0.30	34.70	-0.09	-0.04	34.78
CVXQMB-561	2.20	-0.12	-0.91	4.00	-0.07	-0.47	33.00	-1.79	-0.76	33.37
D4VQMP-561	2.30	-0.02	-0.15	4.20	0.13	0.81	33.20	-1.59	-0.67	33.20
D96WD4-560	2.20	-0.12	-0.91	3.90	-0.17	-1.10	34.00	-0.79	-0.33	34.34
DGY276-561	2.50	0.18	1.35	4.40	0.33	2.09	35.00	0.21	0.09	34.62
DKXD6P-560	2.37	0.05	0.37	4.03	-0.04	-0.27	36.02	1.23	0.52	36.02
E3RDPU-560	2.20	-0.12	-0.91	4.00	-0.07	-0.47	33.36	-1.43	-0.60	33.37
E4PNKX-560	2.42	0.10	0.75	3.99	-0.08	-0.53	37.30	2.51	1.06	37.34
E7CKTN-560	2.23	-0.09	-0.68	4.00	-0.07	-0.47	33.90	-0.89	-0.38	33.88
EE7G2K-561	2.50	0.18	1.35	4.06	-0.01	-0.06	36.70	1.91	0.81	37.97
EP9QLN-561	2.50	0.18	1.35	4.25	0.18	1.13	36.00	1.21	0.51	36.03
EYCZQT-560	2.30	-0.02	-0.15	4.00	-0.07	-0.47	35.10	0.31	0.13	35.10
F4JQUY-560	2.30	-0.02	-0.15	4.20	0.13	0.81	33.00	-1.79	-0.76	33.20
FA8EN4-561	2.40	0.08	0.60	4.10	0.03	0.17	36.00	1.21	0.51	35.83
FAPKNU-560	2.00	-0.32	-2.41	4.00	-0.07	-0.47	30.00	-4.79	-2.03	30.00
FE434Q-560	2.40	0.08	0.60	3.80	-0.27	-1.74	39.20	4.41	1.87	39.17
FJBNVU-560	2.35	0.03	0.22	4.07	0.00	-0.02	35.27	0.48	0.20	35.27
FXE7RM-560	2.30	-0.02	-0.15	4.00	-0.07	-0.47	35.10	0.31	0.13	35.10
G2CVMZ-561	2.40	0.08	0.60	4.00	-0.07	-0.47	36.87	2.08	0.88	36.87
G2U4CV-560	2.00	-0.32	-2.41	4.00	-0.07	-0.47	30.00	-4.79	-2.03	30.00

TABLE 1  
Stain A, continued

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
G3LXBK-561	2.40	0.08	0.60	4.20	0.13	0.81	34.80	0.01	0.00	34.85
G3MUHA-561	2.40	0.08	0.60	4.20	0.13	0.81	34.80	0.01	0.00	34.85
GK8EPE-560	2.40	0.08	0.60	4.20	0.13	0.81	34.80	0.01	0.00	34.85
GN66KT-561	2.30	-0.02	-0.15	4.00	-0.07	-0.47	35.10	0.31	0.13	35.10
GQE6RK-560	2.33	0.01	0.07	4.13	0.06	0.36	34.00	-0.79	-0.33	34.34
GWF4GP-561	2.20	-0.12	-0.91	4.10	0.03	0.17	32.45	-2.34	-0.99	32.45
H27ZGZ-561	2.40	0.08	0.60	4.20	0.13	0.81	33.90	-0.89	-0.38	34.85
H64JER-560	2.20	-0.12	-0.91	3.90	-0.17	-1.10	34.30	-0.49	-0.21	34.34
H6AMGJ-560	2.30	-0.02	-0.15	3.90	-0.17	-1.10	36.00	1.21	0.51	36.14
H7FE2J-561	2.50	0.18	1.35	4.50	0.43	2.72	34.00	-0.79	-0.33	33.75
H94VBR-560	2.40	0.08	0.60	4.30	0.23	1.45	34.00	-0.79	-0.33	33.93
HMP624-560	23.00	20.68	155.35 X	43.00	38.93	248.29 X	32.30	-2.49	-1.05	32.34
HRJYY6-561	2.30	-0.02	-0.15	4.00	-0.07	-0.47	35.00	0.21	0.09	35.10
HXRETM-560	2.00	-0.32	-2.41	4.00	-0.07	-0.47	30.00	-4.79	-2.03	30.00
HZUC4F-561	2.40	0.08	0.60	4.30	0.23	1.45	34.00	-0.79	-0.33	33.93
J2LGA8-561	5.70	3.38	25.39 X	10.20	6.13	39.08 X	33.78	-1.01	-0.43	33.97
J9NT76-560	2.50	0.18	1.35	4.50	0.43	2.72	33.74	-1.05	-0.44	33.75
JAYJF-560	2.29	-0.03	-0.26	4.06	-0.01	-0.06	34.23	-0.56	-0.24	34.23
JTVVY-560	2.30	-0.02	-0.15	4.00	-0.07	-0.47	35.00	0.21	0.09	35.10
K7D78Q-560	2.30	-0.02	-0.15	4.30	0.23	1.45	32.00	-2.79	-1.18	32.34
K88WD6-560	2.30	-0.02	-0.15	3.90	-0.17	-1.10	36.14	1.35	0.57	36.14
KFFNHT-560	2.17	-0.15	-1.13	4.05	-0.02	-0.15	33.00	-1.79	-0.76	32.40
KKVYWW-561	2.20	-0.12	-0.91	3.90	-0.17	-1.10	34.00	-0.79	-0.33	34.34
KPQP4U-560	2.65	0.33	2.48	4.62	0.55	3.49 X	34.75	-0.04	-0.02	35.00

TABLE 1  
Stain A, continued

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
L9C27J-561	2.50	0.18	1.35	4.00	-0.07	-0.47	38.70	3.91	1.66	38.68
LB33AL-560	2.40	0.08	0.60	4.00	-0.07	-0.47	36.87	2.08	0.88	36.87
LJDA7P-560	2.30	-0.02	-0.15	4.10	0.03	0.17	34.10	-0.69	-0.29	34.12
LJTTQM-560	2.40	0.08	0.60	4.10	0.03	0.17	36.00	1.21	0.51	35.83
LNNMNN-560	23.00	20.68	155.35 X	39.00	34.93	222.78 X	36.00	1.21	0.51	36.14
LP238G-560	2.40	0.08	0.60	4.30	0.23	1.45	34.00	-0.79	-0.33	33.93
LQXHKE-560	2.50	0.18	1.35	4.00	-0.07	-0.47	38.70	3.91	1.66	38.68
LVM2FG-560	2.25	-0.07	-0.53	3.93	-0.14	-0.91	34.90	0.11	0.05	34.93
LXFXZ6-561	2.30	-0.02	-0.15	4.10	0.03	0.17	34.00	-0.79	-0.33	34.12
LZGY3M-561	2.30	-0.02	-0.15	4.00	-0.07	-0.47	35.10	0.31	0.13	35.10
M2T3AJ-560	2.40	0.08	0.60	4.10	0.03	0.17	36.00	1.21	0.51	35.83
MBZQCH-560	2.00	-0.32	-2.41	4.00	-0.07	-0.47	30.00	-4.79	-2.03	30.00
MEY29H-560	2.00	-0.32	-2.41	3.50	-0.57	-3.66 X	35.00	0.21	0.09	34.85
MJA69R-561	2.00	-0.32	-2.41	4.00	-0.07	-0.47	30.00	-4.79	-2.03	30.00
MLFM7N-560	2.00	-0.32	-2.41	4.00	-0.07	-0.47	30.00	-4.79	-2.03	30.00
MQU6LJ-561	2.40	0.08	0.60	4.00	-0.07	-0.47	36.90	2.11	0.89	36.87
MRLHQN-560	2.30	-0.02	-0.15	4.00	-0.07	-0.47	35.10	0.31	0.13	35.10
N28UQ8-561	2.40	0.08	0.60	4.00	-0.07	-0.47	37.00	2.21	0.94	36.87
NECZUE-561	2.38	0.06	0.45	3.51	-0.56	-3.59 X	42.70	7.91	3.35 X	42.69 X
NM7AXH-560	2.30	-0.02	-0.15	3.80	-0.27	-1.74	37.00	2.21	0.94	37.25
NRLKBL-560	2.40	0.08	0.60	4.00	-0.07	-0.47	36.90	2.11	0.89	36.87
P6HGP6-561	2.20	-0.12	-0.91	4.00	-0.07	-0.47	33.40	-1.39	-0.59	33.37
P6LZET-560	2.35	0.03	0.22	4.20	0.13	0.81	34.02	-0.77	-0.33	34.02
PFJJCM-560	2.40	0.08	0.60	4.20	0.13	0.81	35.00	0.21	0.09	34.85

TABLE 1  
Stain A, continued

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
PPPLEY- 560	2.40	0.08	0.60	4.30	0.23	1.45	33.90	-0.89	-0.38	33.93
Q9WB62- 561	2.30	-0.02	-0.15	4.00	-0.07	-0.47	35.00	0.21	0.09	35.10
QARWXT- 560	2.40	0.08	0.60	4.24	0.17	1.06	34.00	-0.79	-0.33	34.47
QB3WUM- 560	2.20	-0.12	-0.91	3.90	-0.17	-1.10	34.00	-0.79	-0.33	34.34
QDDJQF- 561	2.32	0.00	0.00	4.10	0.03	0.17	34.50	-0.29	-0.12	34.46
QKQRRH- 560	2.30	-0.02	-0.15	4.00	-0.07	-0.47	35.00	0.21	0.09	35.10
QP9RDP- 560	2.50	0.18	1.35	4.00	-0.07	-0.47	39.00	4.21	1.78	38.68
QQ49QL- 560	2.20	-0.12	-0.91	3.90	-0.17	-1.10	34.30	-0.49	-0.21	34.34
QUH7X9- 560	2.30	-0.02	-0.15	4.00	-0.07	-0.47	35.00	0.21	0.09	35.10
QWR73F- 560	2.20	-0.12	-0.91	4.30	0.23	1.45	30.00	-4.79	-2.03	30.77
R7PFWH- 560	2.48	0.16	1.20	4.21	0.14	0.87	36.10	1.31	0.56	36.09
RB37CC- 561	2.30	-0.02	-0.15	4.30	0.23	1.45	33.60	-1.19	-0.50	32.34
RFBGED- 560	2.40	0.08	0.60	3.80	-0.27	-1.74	39.20	4.41	1.87	39.17
RFCACL- 561	2.17	-0.15	-1.13	4.05	-0.02	-0.15	33.00	-1.79	-0.76	32.40
RG8YFE- 561	2.50	0.18	1.35	4.00	-0.07	-0.47	36.00	1.21	0.51	38.68
RGEVC9- 561	2.30	-0.02	-0.15	4.10	0.03	0.17	34.00	-0.79	-0.33	34.12
RR7Q2M- 561	2.40	0.08	0.60	4.30	0.23	1.45	33.93	-0.86	-0.36	33.93
RUANAU- 560	2.30	-0.02	-0.15	4.40	0.33	2.09	31.50	-3.29	-1.39	31.52
RVPK3U- 560	2.40	0.08	0.60	4.10	0.03	0.17	35.80	1.01	0.43	35.83
RX2BF6- 560	2.37	0.05	0.37	4.23	0.16	1.00	34.00	-0.79	-0.33	34.08
T3HGZG- 560	2.20	-0.12	-0.91	4.00	-0.07	-0.47	33.00	-1.79	-0.76	33.37
T3R6QB- 560	2.20	-0.12	-0.91	4.00	-0.07	-0.47	33.40	-1.39	-0.59	33.37
T8XXK7- 561	2.40	0.08	0.60	4.00	-0.07	-0.47	36.90	2.11	0.89	36.87
TBXAG7- 560	2.29	-0.03	-0.23	3.98	-0.09	-0.59	35.00	0.21	0.09	35.13

TABLE 1  
Stain A, continued

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
TJQ7HM-561	2.30	-0.02	-0.15	3.90	-0.17	-1.10	36.00	1.21	0.51	36.14
TR7ZJB-560	2.40	0.08	0.60	4.10	0.03	0.17	36.00	1.21	0.51	35.83
U3G28F-560	2.00	-0.32	-2.41	4.00	-0.07	-0.47	30.00	-4.79	-2.03	30.00
U8BV6G-560	1.90	-0.42	-3.16 X	3.55	-0.52	-3.34 X	32.00	-2.79	-1.18	32.36
UEU7EC-560	2.40	0.08	0.60	4.30	0.23	1.45	34.00	-0.79	-0.33	33.93
UGX2XE-561	2.40	0.08	0.60	4.10	0.03	0.17	35.00	0.21	0.09	35.83
UKHPWU-560	2.25	-0.07	-0.53	4.00	-0.07	-0.47	34.00	-0.79	-0.33	34.23
UR4MKG-560	2.30	-0.02	-0.15	4.20	0.13	0.81	33.20	-1.59	-0.67	33.20
UWET39-560	2.35	0.03	0.22	4.07	0.00	-0.02	35.30	0.51	0.22	35.27
V2YF7D-560	2.50	0.18	1.35	4.00	-0.07	-0.47	39.00	4.21	1.78	38.68
V32T68-560	2.40	0.08	0.60	4.20	0.13	0.81	34.80	0.01	0.00	34.85
VAHD4D-561	2.00	-0.32	-2.41	3.00	-1.07	-6.84 X	41.81	7.02	2.97	41.81 X
VAXUX7-561	2.29	-0.03	-0.23	4.29	0.22	1.38	32.00	-2.79	-1.18	32.26
VBC4AR-560	2.00	-0.32	-2.41	4.00	-0.07	-0.47	30.00	-4.79	-2.03	30.00
VCHRKB-560	2.30	-0.02	-0.15	4.40	0.33	2.09	31.50	-3.29	-1.39	31.52
WDFV7-561	2.30	-0.02	-0.15	4.00	-0.07	-0.47	35.00	0.21	0.09	35.10
WYTGy-561	22.60	20.28	152.35 X	41.60	37.53	239.36 X	33.00	-1.79	-0.76	32.91
VYWE7F-560	2.30	-0.02	-0.15	4.30	0.23	1.45	32.34	-2.45	-1.04	32.34
W2FNXT-560	2.41	0.09	0.67	4.15	0.08	0.49	35.52	0.73	0.31	35.50
W3ERQ4-560	2.40	0.08	0.60	4.10	0.03	0.17	35.80	1.01	0.43	35.83
WAHnk2-560	2.25	-0.07	-0.53	4.22	0.15	0.94	32.00	-2.79	-1.18	32.22
WLMUMM-561	2.30	-0.02	-0.15	4.00	-0.07	-0.47	35.10	0.31	0.13	35.10
WLQqJ6-560	2.50	0.18	1.35	4.00	-0.07	-0.47	39.00	4.21	1.78	38.68
WTAUQ8-561	2.20	-0.12	-0.91	4.00	-0.07	-0.47	33.00	-1.79	-0.76	33.37

TABLE 1  
**Stain A, continued**

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
WUJTXA-560	2.30	-0.02	-0.15	4.20	0.13	0.81	33.00	-1.79	-0.76	33.20
WUKLVG-561	2.00	-0.32	-2.41	4.00	-0.07	-0.47	30.00	-4.79	-2.03	30.00
WVEC2V-561	2.33	0.01	0.07	4.15	0.08	0.49	34.20	-0.59	-0.25	34.16
WXJ6T9-560	2.20	-0.12	-0.91	4.00	-0.07	-0.47	33.00	-1.79	-0.76	33.37
WXKWRG-560	2.20	-0.12	-0.91	3.90	-0.17	-1.10	34.00	-0.79	-0.33	34.34
WYEMVB-560	2.40	0.08	0.60	4.40	0.33	2.09	33.00	-1.79	-0.76	33.06
X3Q232-561	2.30	-0.02	-0.15	3.90	-0.17	-1.10	36.00	1.21	0.51	36.14
X6VJDQ-561	2.40	0.08	0.60	4.21	0.14	0.87	34.47	-0.32	-0.13	34.76
X8Z44B-560	2.50	0.18	1.35	4.00	-0.07	-0.47	39.00	4.21	1.78	38.68
XCBGKA-560	2.40	0.08	0.60	4.20	0.13	0.81	34.85	0.06	0.03	34.85
XD7ZMB-560	2.40	0.08	0.60	4.00	-0.07	-0.47	36.90	2.11	0.89	36.87
XLHWPW-561	2.39	0.07	0.52	4.16	0.09	0.55	35.00	0.21	0.09	35.07
XPH8LW-561	2.39	0.07	0.52	4.17	0.10	0.62	34.87	0.08	0.03	34.97
XRNRBH-560	2.50	0.18	1.35	4.00	-0.07	-0.47	38.70	3.91	1.66	38.68
XY8VHK-560	2.52	0.20	1.50	4.20	0.13	0.81	36.98	2.19	0.93	36.87
XZ3EKL-561	2.40	0.08	0.60	4.00	-0.07	-0.47	36.86	2.07	0.88	36.87
YR8VK4-561	2.20	-0.12	-0.91	4.00	-0.07	-0.47	33.40	-1.39	-0.59	33.37
YUUKQ3-560	2.40	0.08	0.60	3.80	-0.27	-1.74	39.00	4.21	1.78	39.17
YWY32Q-560	2.44	0.12	0.90	4.34	0.27	1.70	34.21	-0.58	-0.24	34.21
YXA6PB-560	2.45	0.13	0.97	4.10	0.03	0.17	37.00	2.21	0.94	36.70
Z4E29B-560	2.00	-0.32	-2.41	4.00	-0.07	-0.47	30.00	-4.79	-2.03	30.00
ZF9GXC-561	2.30	-0.02	-0.15	4.10	0.03	0.17	35.00	0.21	0.09	34.12
ZGFW6H-561	2.40	0.08	0.60	4.20	0.13	0.81	34.84	0.05	0.02	34.85
ZHAM9B-560	2.40	0.08	0.60	4.20	0.13	0.81	34.80	0.01	0.00	34.85

TABLE 1  
**Stain A, continued**

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
ZHHH66- 560	<b>2.50</b>	0.18	1.35	<b>4.00</b>	-0.07	-0.47	<b>39.00</b>	4.21	1.78	38.68
ZPDNDC- 560	<b>3.00</b>	0.68	5.10 X	<b>4.00</b>	-0.07	-0.47	<b>49.00</b>	14.21	6.02 X	48.59 X
ZQ8EJQ- 561	<b>2.40</b>	0.08	0.60	<b>4.00</b>	-0.07	-0.47	<b>37.00</b>	2.21	0.94	36.87
ZTY3P2- 561	<b>2.32</b>	0.00	0.00	<b>4.01</b>	-0.06	-0.40	<b>35.30</b>	0.51	0.22	35.35
Grand Mean	<b>2.32</b>			<b>4.07</b>			<b>34.79</b>			<b>34.76</b>
Standard Deviation	<b>0.13</b>			<b>0.16</b>			<b>2.36</b>			<b>2.27</b>
Participants Included in calculations		211			207			218		216
Participants excluded from calculations (indicated by X)		9			13			2		4

Stain A Preparation Angle: 35.1°

TABLE 1  
Stain B

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
224JP7-561	1.30	0.01	0.06	5.30	0.04	0.17	14.55	0.20	0.13	14.20
296VL3-561	4.00	2.71	21.76 X	18.00	12.74	50.32 X	13.00	-1.35	-0.87	12.84
2DV6UF-561	1.00	-0.29	-2.35	5.00	-0.26	-1.01	11.00	-3.35	-2.15	11.54
2K3LD2-561	1.25	-0.04	-0.34	6.00	0.74	2.94	12.00	-2.35	-1.51	12.02
2KELAW-561	1.50	0.21	1.67	5.20	-0.06	-0.22	17.00	2.65	1.70	16.77
2KWNR6-561	1.20	-0.09	-0.74	5.30	0.04	0.17	13.20	-1.15	-0.74	13.09
2RXZPM-560	1.30	0.01	0.06	5.30	0.04	0.17	14.00	-0.35	-0.23	14.20
2UPMVW-561	1.70	0.41	3.28 X	5.80	0.54	2.15	17.00	2.65	1.70	17.04
36ZLRC-560	1.00	-0.29	-2.35	5.00	-0.26	-1.01	12.00	-2.35	-1.51	11.54
3ARV3B-561	1.20	-0.09	-0.74	4.20	-1.06	-4.17 X	16.60	2.25	1.44	16.60
3GBY8R-560	1.30	0.01	0.06	5.50	0.24	0.96	13.70	-0.65	-0.42	13.67
3LT8JX-560	1.40	0.11	0.87	5.29	0.03	0.13	15.00	0.65	0.42	15.35
3QJT46-560	1.40	0.11	0.87	5.20	-0.06	-0.22	15.62	1.27	0.81	15.62
3UH6Z6-561	1.30	0.01	0.06	5.50	0.24	0.96	14.00	-0.35	-0.23	13.67
3VDM27-560	1.50	0.21	1.67	5.30	0.04	0.17	16.40	2.05	1.31	16.44
49VYQL-560	1.30	0.01	0.06	5.40	0.14	0.57	13.90	-0.45	-0.29	13.93
4DBA4P-560	1.30	0.01	0.06	5.30	0.04	0.17	14.20	-0.15	-0.10	14.20
4DLED8-560	1.30	0.01	0.06	5.20	-0.06	-0.22	14.47	0.12	0.07	14.48
4G72CL-561	1.50	0.21	1.67	5.30	0.04	0.17	16.44	2.09	1.34	16.44
4H2KDN-561	1.30	0.01	0.06	5.20	-0.06	-0.22	14.47	0.12	0.07	14.48
4HG4XK-560	1.20	-0.09	-0.74	5.20	-0.06	-0.22	13.34	-1.01	-0.65	13.34
4JF7RV-560	1.30	0.01	0.06	5.40	0.14	0.57	13.93	-0.42	-0.27	13.93
4LFEUK-560	1.20	-0.09	-0.74	5.12	-0.14	-0.54	13.50	-0.85	-0.55	13.55
4P92YV-561	1.30	0.01	0.06	5.50	0.24	0.96	14.00	-0.35	-0.23	13.67



TABLE 1  
Stain B, continued

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
6CXX4Y-561	1.30	0.01	0.06	5.40	0.14	0.57	14.00	-0.35	-0.23	13.93
6FCLMW-560	1.25	-0.04	-0.34	5.12	-0.14	-0.54	14.00	-0.35	-0.23	14.13
6KLNN7-560	1.00	-0.29	-2.35	5.00	-0.26	-1.01	11.50	-2.85	-1.83	11.54
6TWAAF-560	1.20	-0.09	-0.74	5.20	-0.06	-0.22	13.60	-0.75	-0.48	13.34
6WVL8Z-561	1.25	-0.04	-0.34	5.00	-0.26	-1.01	15.00	0.65	0.42	14.48
727YMD-560	1.30	0.01	0.06	4.50	-0.76	-2.99	17.00	2.65	1.70	16.79
7CPFFK-561	1.50	0.21	1.67	5.00	-0.26	-1.01	17.00	2.65	1.70	17.46
7DKYHL-561	1.32	0.03	0.23	4.75	-0.51	-2.00	16.13	1.78	1.14	16.13
7PWAXP-560	1.43	0.14	1.11	5.28	0.02	0.09	15.70	1.35	0.86	15.71
7R6P6V-561	1.00	-0.29	-2.35	5.20	-0.06	-0.22	11.00	-3.35	-2.15	11.09
7VKZHY-560	1.27	-0.02	-0.18	5.14	-0.12	-0.46	14.00	-0.35	-0.23	14.30
8AUC34-561	1.30	0.01	0.06	5.20	-0.06	-0.22	14.00	-0.35	-0.23	14.48
8G2ULQ-561	1.40	0.11	0.87	5.30	0.04	0.17	15.00	0.65	0.42	15.32
8GGYWA-560	1.30	0.01	0.06	4.20	-1.06	-4.17 X	18.00	3.65	2.34	18.03
8KVHC6-560	1.30	0.01	0.06	5.30	0.04	0.17	14.20	-0.15	-0.10	14.20
8LBWLZ-560	1.00	-0.29	-2.35	5.00	-0.26	-1.01	11.53	-2.82	-1.81	11.54
8VDGM8-560	1.30	0.01	0.06	4.20	-1.06	-4.17 X	18.00	3.65	2.34	18.03
8W9WY6-561	1.30	0.01	0.06	5.40	0.14	0.57	13.90	-0.45	-0.29	13.93
98P4BY-561	1.11	-0.18	-1.46	5.11	-0.15	-0.58	13.00	-1.35	-0.87	12.55
9D97FF-561	1.40	0.11	0.87	5.60	0.34	1.36	14.50	0.15	0.09	14.48
9H7VU2-560	1.20	-0.09	-0.74	5.40	0.14	0.57	12.80	-1.55	-1.00	12.84
9HRERL-560	1.37	0.08	0.63	5.41	0.15	0.61	14.70	0.35	0.22	14.67
9P6ALV-561	1.50	0.21	1.67	5.30	0.04	0.17	16.40	2.05	1.31	16.44
9PQQ3X-561	1.34	0.05	0.39	5.48	0.22	0.88	14.20	-0.15	-0.10	14.15

TABLE 1  
Stain B, continued

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
9T6LHV-561	1.30	0.01	0.06	5.70	0.44	1.75	13.00	-1.35	-0.87	13.18
9VT3R3-560	1.32	0.03	0.23	5.32	0.06	0.25	14.40	0.05	0.03	14.37
9W6MTP-560	1.00	-0.29	-2.35	5.50	0.24	0.96	10.00	-4.35	-2.80	10.48
A3BJCP-560	1.30	0.01	0.06	5.00	-0.26	-1.01	15.10	0.75	0.48	15.07
A9GD7L-560	1.32	0.03	0.23	5.45	0.19	0.77	13.98	-0.37	-0.24	14.02
AEL3LK-560	1.40	0.11	0.87	5.10	-0.16	-0.62	15.90	1.55	0.99	15.93
AEYRLC-560	1.20	-0.09	-0.74	5.40	0.14	0.57	12.80	-1.55	-1.00	12.84
AG8VKU-560	1.40	0.11	0.87	5.00	-0.26	-1.01	16.30	1.95	1.25	16.26
AMCNPX-560	1.40	0.11	0.87	5.30	0.04	0.17	15.00	0.65	0.42	15.32
AMDGM6-560	1.50	0.21	1.67	5.50	0.24	0.96	15.80	1.45	0.93	15.83
AN98GQ-560	1.19	-0.10	-0.82	5.17	-0.09	-0.34	13.00	-1.35	-0.87	13.31
AVLD3W-561	1.30	0.01	0.06	5.10	-0.16	-0.62	14.80	0.45	0.29	14.77
AVTBNT-560	1.00	-0.29	-2.35	5.00	-0.26	-1.01	11.50	-2.85	-1.83	11.54
AWNQZQ-561	1.25	-0.04	-0.34	5.17	-0.09	-0.34	14.00	-0.35	-0.23	13.99
AYMD6E-560	1.20	-0.09	-0.74	5.40	0.14	0.57	12.84	-1.51	-0.97	12.84
BCATWK-560	1.20	-0.09	-0.74	5.00	-0.26	-1.01	13.90	-0.45	-0.29	13.89
BEEB7A-561	1.20	-0.09	-0.74	5.40	0.14	0.57	13.00	-1.35	-0.87	12.84
BHEM3A-560	1.25	-0.04	-0.34	5.21	-0.05	-0.18	14.00	-0.35	-0.23	13.88
BJ967V-561	1.30	0.01	0.06	5.40	0.14	0.57	14.50	0.15	0.09	13.93
BKL2AF-561	1.30	0.01	0.06	5.20	-0.06	-0.22	14.50	0.15	0.09	14.48
BXTMYZ-560	1.30	0.01	0.06	5.40	0.14	0.57	14.00	-0.35	-0.23	13.93
C69T9C-561	1.00	-0.29	-2.35	5.00	-0.26	-1.01	11.50	-2.85	-1.83	11.54
C7GJ3A-560	1.20	-0.09	-0.74	5.00	-0.26	-1.01	14.00	-0.35	-0.23	13.89
CAH7QA-560	1.30	0.01	0.06	5.50	0.24	0.96	13.70	-0.65	-0.42	13.67

TABLE 1  
Stain B, continued

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
CJ66GF-561	1.30	0.01	0.06	5.30	0.04	0.17	14.20	-0.15	-0.10	14.20
CJN2XL-560	1.28	-0.01	-0.10	5.41	0.15	0.61	14.00	-0.35	-0.23	13.69
CQ223X-560	1.40	0.11	0.87	5.40	0.14	0.57	15.00	0.65	0.42	15.03
CQPZMQ-561	5.00	3.71	29.80 X	25.00	19.74	77.97 X	12.00	-2.35	-1.51	11.54
CQRXTF-561	1.29	0.00	-0.02	5.21	-0.05	-0.18	14.00	-0.35	-0.23	14.34
CVXQMB-561	1.30	0.01	0.06	5.30	0.04	0.17	14.00	-0.35	-0.23	14.20
D4VQMP-561	1.40	0.11	0.87	5.20	-0.06	-0.22	15.60	1.25	0.80	15.62
D96WD4-560	1.30	0.01	0.06	4.20	-1.06	-4.17 X	18.00	3.65	2.34	18.03
DGY276-561	1.40	0.11	0.87	5.60	0.34	1.36	14.00	-0.35	-0.23	14.48
DKXD6P-560	1.32	0.03	0.23	5.42	0.16	0.65	14.10	-0.25	-0.16	14.10
E3RDPU-560	1.20	-0.09	-0.74	5.25	-0.01	-0.02	13.21	-1.14	-0.73	13.21
E4PNKX-560	1.36	0.07	0.55	5.31	0.05	0.21	14.80	0.45	0.29	14.84
E7CKTN-560	1.23	-0.06	-0.50	5.06	-0.20	-0.77	14.10	-0.25	-0.16	14.07
EE7G2K-561	1.45	0.16	1.25	5.23	-0.03	-0.10	15.50	1.15	0.74	16.06
EP9QLN-561	1.25	-0.04	-0.34	5.50	0.24	0.96	13.10	-1.25	-0.80	13.14
EYCZQT-560	1.50	0.21	1.67	5.50	0.24	0.96	15.80	1.45	0.93	15.83
F4JQUY-560	1.40	0.11	0.87	4.80	-0.46	-1.80	16.00	1.65	1.06	16.96
FA8EN4-561	1.30	0.01	0.06	5.60	0.34	1.36	14.00	-0.35	-0.23	13.42
FAPKNU-560	1.00	-0.29	-2.35	5.00	-0.26	-1.01	11.50	-2.85	-1.83	11.54
FE434Q-560	1.30	0.01	0.06	4.90	-0.36	-1.41	15.40	1.05	0.67	15.39
FJBNVU-560	1.36	0.07	0.55	5.02	-0.24	-0.93	15.72	1.37	0.88	15.72
FXE7RM-560	1.30	0.01	0.06	5.00	-0.26	-1.01	15.10	0.75	0.48	15.07
G2CVMZ-561	1.20	-0.09	-0.74	5.00	-0.26	-1.01	13.89	-0.46	-0.30	13.89
G2U4CV-560	1.00	-0.29	-2.35	5.00	-0.26	-1.01	12.00	-2.35	-1.51	11.54

TABLE 1  
Stain B, continued

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
G3LXBK-561	1.40	0.11	0.87	5.60	0.34	1.36	14.50	0.15	0.09	14.48
G3MUHA-561	1.40	0.11	0.87	6.00	0.74	2.94	13.50	-0.85	-0.55	13.49
GK8EPE-560	1.20	-0.09	-0.74	5.40	0.14	0.57	12.80	-1.55	-1.00	12.84
GN66KT-561	1.25	-0.04	-0.34	4.75	-0.51	-2.00	15.25	0.90	0.58	15.26
GQE6RK-560	1.33	0.04	0.31	5.33	0.07	0.29	14.00	-0.35	-0.23	14.45
GWF4GP-561	1.20	-0.09	-0.74	5.40	0.14	0.57	12.83	-1.52	-0.98	12.84
H27ZGZ-561	1.30	0.01	0.06	5.20	-0.06	-0.22	14.70	0.35	0.22	14.48
H64JER-560	1.30	0.01	0.06	5.40	0.14	0.57	13.90	-0.45	-0.29	13.93
H6AMGJ-560	1.30	0.01	0.06	4.90	-0.36	-1.41	15.00	0.65	0.42	15.39
H7FE2J-561	1.50	0.21	1.67	5.50	0.24	0.96	16.00	1.65	1.06	15.83
H94VBR-560	1.40	0.11	0.87	5.40	0.14	0.57	15.00	0.65	0.42	15.03
HMP624-560	13.00	11.71	94.08 X	55.00	49.74	196.43 X	13.70	-0.65	-0.42	13.67
HRJYY6-561	1.30	0.01	0.06	5.20	-0.06	-0.22	14.40	0.05	0.03	14.48
HXRETM-560	1.00	-0.29	-2.35	5.00	-0.26	-1.01	12.00	-2.35	-1.51	11.54
HZUC4F-561	1.40	0.11	0.87	5.60	0.34	1.36	14.00	-0.35	-0.23	14.48
J2LGA8-561	3.20	1.91	15.33 X	13.20	7.94	31.37 X	14.02	-0.33	-0.21	14.03
J9NT76-560	1.50	0.21	1.67	5.50	0.24	0.96	15.82	1.47	0.94	15.83
JAYJF-560	1.27	-0.02	-0.18	5.46	0.20	0.81	13.45	-0.90	-0.58	13.45
JTVYYV-560	1.30	0.01	0.06	5.20	-0.06	-0.22	15.00	0.65	0.42	14.48
K7D78Q-560	1.30	0.01	0.06	5.50	0.24	0.96	13.00	-1.35	-0.87	13.67
K88WD6-560	1.30	0.01	0.06	5.20	-0.06	-0.22	14.48	0.13	0.08	14.48
KFFNHT-560	1.30	0.01	0.06	4.20	-1.06	-4.17 X	18.00	3.65	2.34	18.03
KKVYWW-561	1.30	0.01	0.06	4.20	-1.06	-4.17 X	18.00	3.65	2.34	18.03
KPQP4U-560	1.57	0.28	2.23	4.77	-0.49	-1.92	19.27	4.92	3.16 X	19.22 X

TABLE 1  
Stain B, continued

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
L9C27J-561	1.30	0.01	0.06	5.10	-0.16	-0.62	14.80	0.45	0.29	14.77
LB33AL-560	1.20	-0.09	-0.74	5.20	-0.06	-0.22	13.34	-1.01	-0.65	13.34
LJDA7P-560	1.30	0.01	0.06	5.20	-0.06	-0.22	14.50	0.15	0.09	14.48
LJTTQM-560	1.30	0.01	0.06	5.10	-0.16	-0.62	15.00	0.65	0.42	14.77
LNNMNN-560	13.00	11.71	94.08 X	54.00	48.74	192.48 X	14.00	-0.35	-0.23	13.93
LP238G-560	1.30	0.01	0.06	5.40	0.14	0.57	14.00	-0.35	-0.23	13.93
LQXHKE-560	1.40	0.11	0.87	5.40	0.14	0.57	15.00	0.65	0.42	15.03
LVM2FG-560	1.22	-0.07	-0.58	5.12	-0.14	-0.54	13.80	-0.55	-0.36	13.79
LXFXZ6-561	1.40	0.11	0.87	5.40	0.14	0.57	15.00	0.65	0.42	15.03
LZGY3M-561	1.20	-0.09	-0.74	5.00	-0.26	-1.01	13.90	-0.45	-0.29	13.89
M2T3AJ-560	1.30	0.01	0.06	5.30	0.04	0.17	14.00	-0.35	-0.23	14.20
MBZQCH-560	1.10	-0.19	-1.54	5.10	-0.16	-0.62	12.50	-1.85	-1.19	12.46
MEY29H-560	1.00	-0.29	-2.35	4.50	-0.76	-2.99	13.00	-1.35	-0.87	12.84
MJA69R-561	1.00	-0.29	-2.35	5.00	-0.26	-1.01	12.00	-2.35	-1.51	11.54
MLFM7N-560	1.50	0.21	1.67	5.00	-0.26	-1.01	18.00	3.65	2.34	17.46
MQU6LJ-561	1.40	0.11	0.87	5.20	-0.06	-0.22	15.60	1.25	0.80	15.62
MRLHQN-560	1.30	0.01	0.06	5.20	-0.06	-0.22	14.47	0.12	0.07	14.48
N28UQ8-561	1.30	0.01	0.06	5.00	-0.26	-1.01	15.00	0.65	0.42	15.07
NECZUE-561	1.33	0.04	0.31	4.60	-0.66	-2.59	16.80	2.45	1.57	16.81
NM7AXH-560	1.30	0.01	0.06	4.90	-0.36	-1.41	15.00	0.65	0.42	15.39
NRLKBL-560	1.30	0.01	0.06	5.50	0.24	0.96	13.70	-0.65	-0.42	13.67
P6HGP6-561	1.20	-0.09	-0.74	5.40	0.14	0.57	12.80	-1.55	-1.00	12.84
P6LZET-560	1.35	0.06	0.47	5.50	0.24	0.96	14.21	-0.14	-0.09	14.21
PFJJCM-560	1.30	0.01	0.06	5.40	0.14	0.57	14.00	-0.35	-0.23	13.93

TABLE 1  
Stain B, continued

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
PPPLEY- 560	1.30	0.01	0.06	5.30	0.04	0.17	14.20	-0.15	-0.10	14.20
Q9WB62- 561	1.10	-0.19	-1.54	4.80	-0.46	-1.80	13.00	-1.35	-0.87	13.25
QARWXT- 560	1.32	0.03	0.23	5.67	0.41	1.63	13.00	-1.35	-0.87	13.46
QB3WUM- 560	1.30	0.01	0.06	4.20	-1.06	-4.17 X	18.00	3.65	2.34	18.03
QDDJQF- 561	1.31	0.02	0.15	4.70	-0.56	-2.20	16.20	1.85	1.19	16.18
QKQRRH- 560	1.30	0.01	0.06	5.00	-0.26	-1.01	15.00	0.65	0.42	15.07
QP9RDP- 560	1.00	-0.29	-2.35	5.00	-0.26	-1.01	11.50	-2.85	-1.83	11.54
QQ49QL- 560	1.20	-0.09	-0.74	5.00	-0.26	-1.01	13.90	-0.45	-0.29	13.89
QUH7X9- 560	1.30	0.01	0.06	5.30	0.04	0.17	14.00	-0.35	-0.23	14.20
QWR73F- 560	1.20	-0.09	-0.74	5.40	0.14	0.57	12.00	-2.35	-1.51	12.84
R7PFWH- 560	1.42	0.13	1.03	5.31	0.05	0.21	15.50	1.15	0.74	15.51
RB37CC- 561	1.40	0.11	0.87	5.50	0.24	0.96	14.50	0.15	0.09	14.75
RFBGED- 560	1.40	0.11	0.87	5.20	-0.06	-0.22	15.60	1.25	0.80	15.62
RFCACL- 561	1.47	0.18	1.43	4.88	-0.38	-1.49	17.46	3.11	1.99	17.53
RG8YFE- 561	1.40	0.11	0.87	5.00	-0.26	-1.01	15.00	0.65	0.42	16.26
RGEVC9- 561	1.30	0.01	0.06	5.00	-0.26	-1.01	15.00	0.65	0.42	15.07
RR7Q2M- 561	1.30	0.01	0.06	5.40	0.14	0.57	13.93	-0.42	-0.27	13.93
RUANAU- 560	1.40	0.11	0.87	5.50	0.24	0.96	14.80	0.45	0.29	14.75
RVPK3U- 560	1.40	0.11	0.87	5.30	0.04	0.17	15.30	0.95	0.61	15.32
RX2BF6- 560	1.26	-0.03	-0.26	5.47	0.21	0.84	13.00	-1.35	-0.87	13.32
T3HGZG- 560	1.30	0.01	0.06	5.60	0.34	1.36	13.00	-1.35	-0.87	13.42
T3R6QB- 560	1.30	0.01	0.06	5.50	0.24	0.96	13.70	-0.65	-0.42	13.67
T8XXK7- 561	1.30	0.01	0.06	5.30	0.04	0.17	14.20	-0.15	-0.10	14.20
TBXAG7- 560	1.31	0.02	0.15	5.46	0.20	0.81	14.00	-0.35	-0.23	13.88

TABLE 1  
Stain B, continued

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
TJQ7HM-561	1.30	0.01	0.06	4.20	-1.06	-4.17 X	18.00	3.65	2.34	18.03
TR7ZJB-560	1.40	0.11	0.87	5.40	0.14	0.57	15.00	0.65	0.42	15.03
U3G28F-560	1.00	-0.29	-2.35	5.00	-0.26	-1.01	11.54	-2.81	-1.81	11.54
U8BV6G-560	0.88	-0.41	-3.31 X	4.75	-0.51	-2.00	11.00	-3.35	-2.15	10.68
UEU7EC-560	1.30	0.01	0.06	5.50	0.24	0.96	14.00	-0.35	-0.23	13.67
UGX2XE-561	1.30	0.01	0.06	4.80	-0.46	-1.80	16.00	1.65	1.06	15.71
UKHPWU-560	1.25	-0.04	-0.34	5.00	-0.26	-1.01	14.50	0.15	0.09	14.48
UR4MKG-560	1.20	-0.09	-0.74	5.30	0.04	0.17	13.10	-1.25	-0.80	13.09
UWET39-560	1.37	0.08	0.63	5.38	0.12	0.49	14.80	0.45	0.29	14.75
V2YF7D-560	1.30	0.01	0.06	5.00	-0.26	-1.01	15.00	0.65	0.42	15.07
V32T68-560	1.20	-0.09	-0.74	5.20	-0.06	-0.22	13.30	-1.05	-0.68	13.34
VAHD4D-561	1.00	-0.29	-2.35	4.00	-1.26	-4.96 X	14.47	0.12	0.07	14.48
VAXUX7-561	1.29	0.00	-0.02	5.38	0.12	0.49	14.00	-0.35	-0.23	13.87
VBC4AR-560	1.30	0.01	0.06	5.20	-0.06	-0.22	14.00	-0.35	-0.23	14.48
VCHRKB-560	1.00	-0.29	-2.35	5.60	0.34	1.36	10.30	-4.05	-2.60	10.29
WDFV7-561	1.20	-0.09	-0.74	5.00	-0.26	-1.01	14.00	-0.35	-0.23	13.89
WYTG-561	13.00	11.71	94.08 X	50.40	45.14	178.27 X	14.90	0.55	0.35	14.95
VYWE7F-560	1.20	-0.09	-0.74	5.40	0.14	0.57	12.84	-1.51	-0.97	12.84
W2FNXT-560	1.36	0.07	0.55	5.50	0.24	0.96	14.30	-0.05	-0.03	14.32
W3ERQ4-560	1.30	0.01	0.06	5.50	0.24	0.96	13.70	-0.65	-0.42	13.67
WAHnk2-560	1.23	-0.06	-0.50	5.43	0.17	0.69	13.00	-1.35	-0.87	13.09
WLMUMM-561	1.30	0.01	0.06	5.50	0.24	0.96	13.70	-0.65	-0.42	13.67
WLQJ6-560	1.50	0.21	1.67	5.50	0.24	0.96	16.00	1.65	1.06	15.83
WTAUQ8-561	1.20	-0.09	-0.74	5.90	0.64	2.54	12.00	-2.35	-1.51	11.74

TABLE 1  
Stain B, continued

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
WUJTXA-560	1.30	0.01	0.06	5.50	0.24	0.96	14.00	-0.35	-0.23	13.67
WUKLVG-561	1.50	0.21	1.67	5.50	0.24	0.96	15.82	1.47	0.94	15.83
WVEC2V-561	1.29	0.00	-0.02	5.22	-0.04	-0.14	14.30	-0.05	-0.03	14.31
WXJ6T9-560	1.20	-0.09	-0.74	5.40	0.14	0.57	13.00	-1.35	-0.87	12.84
WXKWRG-560	1.30	0.01	0.06	4.20	-1.06	-4.17 X	18.00	3.65	2.34	18.03
WYEMVB-560	1.40	0.11	0.87	5.50	0.24	0.96	15.00	0.65	0.42	14.75
X3Q232-561	1.30	0.01	0.06	5.30	0.04	0.17	14.00	-0.35	-0.23	14.20
X6VJDQ-561	1.35	0.06	0.47	5.49	0.23	0.92	14.24	-0.11	-0.07	14.24
X8Z44B-560	1.40	0.11	0.87	5.20	-0.06	-0.22	16.00	1.65	1.06	15.62
XCBGKA-560	1.40	0.11	0.87	5.40	0.14	0.57	15.03	0.68	0.43	15.03
XD7ZMB-560	1.25	-0.04	-0.34	5.00	-0.26	-1.01	14.50	0.15	0.09	14.48
XLHWPW-561	1.27	-0.02	-0.18	4.84	-0.42	-1.64	15.00	0.65	0.42	15.21
XPH8LW-561	1.32	0.03	0.23	5.58	0.32	1.28	13.71	-0.64	-0.41	13.68
XRNRBH-560	1.50	0.21	1.67	5.10	-0.16	-0.62	17.10	2.75	1.76	17.10
XY8VHK-560	1.54	0.25	1.99	5.63	0.37	1.48	15.90	1.55	0.99	15.87
XZ3EKL-561	1.30	0.01	0.06	5.30	0.04	0.17	14.19	-0.16	-0.10	14.20
YR8VK4-561	1.40	0.11	0.87	5.50	0.24	0.96	14.70	0.35	0.22	14.75
YUUKQ3-560	1.30	0.01	0.06	5.80	0.54	2.15	13.00	-1.35	-0.87	12.95
YWY32Q-560	1.50	0.21	1.67	5.20	-0.06	-0.22	16.76	2.41	1.55	16.77
YXA6PB-560	1.30	0.01	0.06	5.20	-0.06	-0.22	15.00	0.65	0.42	14.48
Z4E29B-560	1.00	-0.29	-2.35	5.00	-0.26	-1.01	11.50	-2.85	-1.83	11.54
ZF9GXC-561	1.30	0.01	0.06	5.20	-0.06	-0.22	14.60	0.25	0.16	14.48
ZGFW6H-561	1.30	0.01	0.06	5.20	-0.06	-0.22	14.48	0.13	0.08	14.48
ZHAM9B-560	1.60	0.31	2.48	5.40	0.14	0.57	17.20	2.85	1.83	17.24



TABLE 1  
**Stain B, continued**

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
ZHHH66- 560	<b>1.50</b>	0.21	1.67	<b>4.90</b>	-0.36	-1.41	<b>18.00</b>	3.65	2.34	17.83
ZPDNDC- 560	<b>2.00</b>	0.71	5.69 X	<b>5.00</b>	-0.26	-1.01	<b>24.00</b>	9.65	6.19 X	23.58 X
ZQ8EJQ- 561	<b>1.30</b>	0.01	0.06	<b>5.20</b>	-0.06	-0.22	<b>14.00</b>	-0.35	-0.23	14.48
ZTY3P2- 561	<b>1.31</b>	0.02	0.15	<b>5.40</b>	0.14	0.57	<b>14.00</b>	-0.35	-0.23	14.04
Grand Mean	<b>1.29</b>			<b>5.26</b>			<b>14.35</b>			<b>14.37</b>
Standard Deviation	<b>0.12</b>			<b>0.25</b>			<b>1.56</b>			<b>1.57</b>
Participants Included in calculations		211		204			218			218
Participants excluded from calculations (indicated by X)		9		16			2			2

Stain B Preparation Angle: 13.2°

TABLE 1  
Stain C

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
224JP7-561	1.20	0.01	0.06	4.80	0.15	0.49	15.04	0.21	0.17	14.48
296VL3-561	4.00	2.81	26.71 X	14.00	9.35	30.44 X	17.00	2.17	1.76	16.60
2DV6UF-561	1.00	-0.19	-1.84	4.00	-0.65	-2.12	14.00	-0.83	-0.67	14.48
2K3LD2-561	1.00	-0.19	-1.84	4.00	-0.65	-2.12	14.00	-0.83	-0.67	14.48
2KELAW-561	1.10	-0.09	-0.89	4.90	0.25	0.81	13.00	-1.83	-1.48	12.97
2KWNR6-561	1.20	0.01	0.06	4.80	0.15	0.49	14.00	-0.83	-0.67	14.48
2RXZPM-560	1.20	0.01	0.06	4.60	-0.05	-0.16	15.00	0.17	0.14	15.12
2UPMVW-561	1.30	0.11	1.02	5.00	0.35	1.14	15.00	0.17	0.14	15.07
36ZLRC-560	1.00	-0.19	-1.84	4.50	-0.15	-0.49	13.00	-1.83	-1.48	12.84
3ARV3B-561	1.30	0.11	1.02	4.00	-0.65	-2.12	18.90	4.07	3.30 X	18.97 X
3GBY8R-560	1.30	0.11	1.02	4.90	0.25	0.81	15.40	0.57	0.46	15.39
3LT8JX-560	1.27	0.08	0.73	4.58	-0.07	-0.23	16.00	1.17	0.95	16.10
3QJT46-560	1.20	0.01	0.06	5.20	0.55	1.79	13.34	-1.49	-1.21	13.34
3UH6Z6-561	1.20	0.01	0.06	4.80	0.15	0.49	14.00	-0.83	-0.67	14.48
3VDM27-560	1.30	0.11	1.02	4.80	0.15	0.49	15.70	0.87	0.70	15.71
49VYQL-560	1.20	0.01	0.06	4.80	0.15	0.49	14.50	-0.33	-0.27	14.48
4DBA4P-560	1.20	0.01	0.06	4.80	0.15	0.49	14.50	-0.33	-0.27	14.48
4DLED8-560	1.20	0.01	0.06	4.60	-0.05	-0.16	15.12	0.29	0.24	15.12
4G72CL-561	1.40	0.21	1.97	5.00	0.35	1.14	16.26	1.43	1.16	16.26
4H2KDN-561	1.20	0.01	0.06	4.70	0.05	0.16	14.79	-0.04	-0.03	14.79
4HG4XK-560	1.10	-0.09	-0.89	4.60	-0.05	-0.16	13.84	-0.99	-0.80	13.84
4JF7RV-560	1.20	0.01	0.06	4.80	0.15	0.49	14.48	-0.35	-0.28	14.48
4LFEUK-560	1.15	-0.04	-0.41	4.53	-0.12	-0.39	14.70	-0.13	-0.10	14.71
4P92YV-561	1.30	0.11	1.02	5.10	0.45	1.46	15.00	0.17	0.14	14.77

TABLE 1  
Stain C, continued

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
6CXX4Y- 561	1.20	0.01	0.06	4.70	0.05	0.16	15.00	0.17	0.14	14.79
6FCLMW- 560	1.12	-0.07	-0.70	4.50	-0.15	-0.49	14.00	-0.83	-0.67	14.41
6KLNN7- 560	1.00	-0.19	-1.84	4.00	-0.65	-2.12	14.50	-0.33	-0.27	14.48
6TWAAF- 560	1.10	-0.09	-0.89	4.70	0.05	0.16	14.10	-0.73	-0.59	13.54
6WVL8Z- 561	1.25	0.06	0.54	5.00	0.35	1.14	15.00	0.17	0.14	14.48
727YMD- 560	1.12	-0.07	-0.70	4.00	-0.65	-2.12	16.00	1.17	0.95	16.26
7CPFFK- 561	1.50	0.31	2.92	4.80	0.15	0.49	18.00	3.17	2.57	18.21
7DKYHL- 561	1.21	0.02	0.16	4.23	-0.42	-1.37	16.62	1.79	1.45	16.62
7PWAXP- 560	1.30	0.11	1.02	4.81	0.16	0.52	15.70	0.87	0.70	15.68
7R6P6V- 561	1.20	0.01	0.06	4.40	-0.25	-0.82	16.00	1.17	0.95	15.83
7VKZHY- 560	1.21	0.02	0.16	4.82	0.17	0.55	14.00	-0.83	-0.67	14.54
8AUC34- 561	1.20	0.01	0.06	4.50	-0.15	-0.49	15.00	0.17	0.14	15.47
8G2ULQ- 561	1.20	0.01	0.06	4.90	0.25	0.81	14.00	-0.83	-0.67	14.18
8GGYWA- 560	1.20	0.01	0.06	4.00	-0.65	-2.12	17.00	2.17	1.76	17.46
8KVHC6- 560	1.20	0.01	0.06	4.80	0.15	0.49	14.50	-0.33	-0.27	14.48
8LBWLZ- 560	1.00	-0.19	-1.84	4.50	-0.15	-0.49	12.83	-2.00	-1.62	12.84
8VDGM8- 560	1.20	0.01	0.06	4.00	-0.65	-2.12	17.00	2.17	1.76	17.46
8W9WY6- 561	1.20	0.01	0.06	4.90	0.25	0.81	14.20	-0.63	-0.51	14.18
98P4BY- 561	1.03	-0.16	-1.55	4.60	-0.05	-0.16	13.00	-1.83	-1.48	12.94
9D97FF- 561	1.20	0.01	0.06	4.80	0.15	0.49	14.50	-0.33	-0.27	14.48
9H7VU2- 560	1.20	0.01	0.06	4.80	0.15	0.49	14.50	-0.33	-0.27	14.48
9HRERL- 560	1.20	0.01	0.06	4.85	0.20	0.65	14.37	-0.46	-0.37	14.33
9P6ALV- 561	1.20	0.01	0.06	4.80	0.15	0.49	14.50	-0.33	-0.27	14.48
9PQQ3X- 561	1.24	0.05	0.44	4.98	0.33	1.07	14.40	-0.43	-0.35	14.42

TABLE 1  
Stain C, continued

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
9T6LHV-561	1.30	0.11	1.02	5.10	0.45	1.46	15.00	0.17	0.14	14.77
9VT3R3-560	1.28	0.09	0.83	4.78	0.13	0.42	15.50	0.67	0.54	15.53
9W6MTP-560	1.00	-0.19	-1.84	4.50	-0.15	-0.49	13.00	-1.83	-1.48	12.84
A3BJCP-560	1.20	0.01	0.06	4.50	-0.15	-0.49	15.50	0.67	0.54	15.47
A9GD7L-560	1.20	0.01	0.06	4.87	0.22	0.71	14.27	-0.56	-0.45	14.26
AEL3LK-560	1.30	0.11	1.02	4.50	-0.15	-0.49	16.80	1.97	1.60	16.79
AEYRLC-560	1.20	0.01	0.06	4.80	0.15	0.49	14.50	-0.33	-0.27	14.48
AG8VKU-560	1.30	0.11	1.02	4.80	0.15	0.49	15.70	0.87	0.70	15.71
AMCNPX-560	1.20	0.01	0.06	4.70	0.05	0.16	15.00	0.17	0.14	14.79
AMDGM6-560	1.50	0.31	2.92	4.50	-0.15	-0.49	19.50	4.67	3.78 X	19.47 X
AN98GQ-560	1.23	0.04	0.35	4.46	-0.19	-0.62	16.00	1.17	0.95	16.01
AVLD3W-561	1.20	0.01	0.06	4.50	-0.15	-0.49	15.50	0.67	0.54	15.47
AVTBNT-560	1.00	-0.19	-1.84	4.50	-0.15	-0.49	12.80	-2.03	-1.64	12.84
AWNQZQ-561	1.16	-0.03	-0.32	4.76	0.11	0.36	14.00	-0.83	-0.67	14.10
AYMD6E-560	1.20	0.01	0.06	4.80	0.15	0.49	14.48	-0.35	-0.28	14.48
BCATWK-560	1.10	-0.09	-0.89	4.80	0.15	0.49	13.20	-1.63	-1.32	13.25
BEEB7A-561	1.20	0.01	0.06	4.40	-0.25	-0.82	16.00	1.17	0.95	15.83
BHEM3A-560	1.30	0.11	1.02	4.65	0.00	0.00	16.00	1.17	0.95	16.23
BJ967V-561	1.20	0.01	0.06	5.10	0.45	1.46	14.00	-0.83	-0.67	13.61
BKL2AF-561	1.20	0.01	0.06	4.80	0.15	0.49	14.50	-0.33	-0.27	14.48
BXTMYZ-560	1.30	0.11	1.02	4.80	0.15	0.49	16.00	1.17	0.95	15.71
C69T9C-561	1.00	-0.19	-1.84	4.50	-0.15	-0.49	12.80	-2.03	-1.64	12.84
C7GJ3A-560	1.20	0.01	0.06	4.70	0.05	0.16	15.00	0.17	0.14	14.79
CAH7QA-560	1.20	0.01	0.06	5.00	0.35	1.14	13.90	-0.93	-0.75	13.89

TABLE 1  
Stain C, continued

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
CJ66GF-561	1.20	0.01	0.06	4.90	0.25	0.81	14.18	-0.65	-0.53	14.18
CJN2XL-560	1.22	0.03	0.25	4.88	0.23	0.75	14.00	-0.83	-0.67	14.48
CQ223X-560	1.30	0.11	1.02	4.70	0.05	0.16	16.10	1.27	1.03	16.06
CQPZMQ-561	6.00	4.81	45.74 X	20.00	15.35	49.98 X	17.00	2.17	1.76	17.46
CQRXTF-561	1.16	-0.03	-0.32	5.21	0.56	1.82	14.00	-0.83	-0.67	12.86
CVXQMB-561	1.20	0.01	0.06	4.80	0.15	0.49	14.00	-0.83	-0.67	14.48
D4VQMP-561	1.20	0.01	0.06	4.60	-0.05	-0.16	15.10	0.27	0.22	15.12
D96WD4-560	1.20	0.01	0.06	4.00	-0.65	-2.12	17.00	2.17	1.76	17.46
DGY276-561	1.30	0.11	1.02	4.80	0.15	0.49	16.00	1.17	0.95	15.71
DKXD6P-560	1.22	0.03	0.25	4.76	0.11	0.36	14.85	0.02	0.02	14.85
E3RDPU-560	1.00	-0.19	-1.84	5.00	0.35	1.14	11.54	-3.29	-2.66	11.54
E4PNKX-560	1.22	0.03	0.25	4.72	0.07	0.23	15.00	0.17	0.14	14.98
E7CKTN-560	1.10	-0.09	-0.89	4.74	0.09	0.29	13.40	-1.43	-1.16	13.42
EE7G2K-561	1.39	0.19	1.84	4.83	0.18	0.58	16.20	1.37	1.11	16.69
EP9QLN-561	1.00	-0.19	-1.84	4.75	0.10	0.32	12.20	-2.63	-2.13	12.15
EYCZQT-560	1.00	-0.19	-1.84	4.70	0.05	0.16	12.30	-2.53	-2.05	12.28
F4JQUY-560	1.30	0.11	1.02	4.60	-0.05	-0.16	16.00	1.17	0.95	16.42
FA8EN4-561	1.20	0.01	0.06	4.40	-0.25	-0.82	15.00	0.17	0.14	15.83
FAPKNU-560	1.00	-0.19	-1.84	4.00	-0.65	-2.12	14.50	-0.33	-0.27	14.48
FE434Q-560	1.20	0.01	0.06	4.40	-0.25	-0.82	15.80	0.97	0.79	15.83
FJBNVU-560	1.36	0.17	1.59	4.20	-0.45	-1.47	18.89	4.06	3.29 X	18.89 X
FXE7RM-560	1.20	0.01	0.06	4.50	-0.15	-0.49	15.50	0.67	0.54	15.47
G2CVMZ-561	1.00	-0.19	-1.84	4.50	-0.15	-0.49	13.00	-1.83	-1.48	12.84
G2U4CV-560	1.00	-0.19	-1.84	5.00	0.35	1.14	12.00	-2.83	-2.29	11.54

TABLE 1  
Stain C, continued

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
G3LXBK-561	1.30	0.11	1.02	4.90	0.25	0.81	15.40	0.57	0.46	15.39
G3MUHA-561	1.20	0.01	0.06	5.00	0.35	1.14	13.90	-0.93	-0.75	13.89
GK8EPE-560	1.00	-0.19	-1.84	4.80	0.15	0.49	12.02	-2.81	-2.27	12.02
GN66KT-561	1.15	-0.04	-0.41	4.40	-0.25	-0.82	15.15	0.32	0.26	15.15
GQE6RK-560	1.20	0.01	0.06	4.73	0.08	0.26	15.00	0.17	0.14	14.70
GWF4GP-561	1.10	-0.09	-0.89	4.90	0.25	0.81	12.97	-1.86	-1.51	12.97
H27ZGZ-561	1.25	0.06	0.54	4.90	0.25	0.81	15.10	0.27	0.22	14.78
H64JER-560	1.10	-0.09	-0.89	4.40	-0.25	-0.82	14.50	-0.33	-0.27	14.48
H6AMGJ-560	1.30	0.11	1.02	4.30	-0.35	-1.14	18.00	3.17	2.57	17.60
H7FE2J-561	1.00	-0.19	-1.84	5.00	0.35	1.14	12.00	-2.83	-2.29	11.54
H94VBR-560	1.20	0.01	0.06	5.00	0.35	1.14	14.00	-0.83	-0.67	13.89
HMP624-560	12.00	10.81	102.84 X	49.00	44.35	144.40 X	14.20	-0.63	-0.51	14.18
HRJYY6-561	1.20	0.01	0.06	4.60	-0.05	-0.16	15.10	0.27	0.22	15.12
HXRETM-560	1.00	-0.19	-1.84	4.00	-0.65	-2.12	14.00	-0.83	-0.67	14.48
HZUC4F-561	1.30	0.11	1.02	5.00	0.35	1.14	15.00	0.17	0.14	15.07
J2LGA8-561	3.00	1.81	17.19 X	11.80	7.15	23.28 X	14.90	0.07	0.06	14.73
J9NT76-560	1.50	0.31	2.92	5.00	0.35	1.14	17.45	2.62	2.12	17.46
JAYJF-560	1.27	0.08	0.73	4.83	0.18	0.57	15.26	0.43	0.35	15.26
JTVVYV-560	1.10	-0.09	-0.89	4.70	0.05	0.16	14.00	-0.83	-0.67	13.54
K7D78Q-560	1.30	0.11	1.02	4.80	0.15	0.49	15.00	0.17	0.14	15.71
K88WD6-560	1.20	0.01	0.06	4.40	-0.25	-0.82	15.83	1.00	0.81	15.83
KFFNHT-560	1.20	0.01	0.06	4.00	-0.65	-2.12	17.00	2.17	1.76	17.46
KKVYWW-561	1.20	0.01	0.06	4.00	-0.65	-2.12	17.00	2.17	1.76	17.46
KPQP4U-560	1.49	0.30	2.82	5.52	0.87	2.83	15.66	0.83	0.67	15.66

TABLE 1  
Stain C, continued

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
L9C27J-561	1.30	0.11	1.02	4.70	0.05	0.16	16.30	1.47	1.19	16.06
LB33AL-560	1.00	-0.19	-1.84	4.60	-0.05	-0.16	12.56	-2.27	-1.84	12.56
LJDA7P-560	1.20	0.01	0.06	4.50	-0.15	-0.49	15.50	0.67	0.54	15.47
LJTTQM-560	1.20	0.01	0.06	4.60	-0.05	-0.16	15.00	0.17	0.14	15.12
LNNMNN-560	12.00	10.81	102.84 X	47.00	42.35	137.89 X	15.00	0.17	0.14	14.79
LP238G-560	1.30	0.11	1.02	4.80	0.15	0.49	16.00	1.17	0.95	15.71
LQXHKE-560	1.20	0.01	0.06	4.80	0.15	0.49	14.50	-0.33	-0.27	14.48
LVM2FG-560	1.14	-0.05	-0.51	4.48	-0.17	-0.56	14.70	-0.13	-0.10	14.74
LXFXZ6-561	1.30	0.11	1.02	4.70	0.05	0.16	16.00	1.17	0.95	16.06
LZGY3M-561	1.20	0.01	0.06	4.80	0.15	0.49	14.50	-0.33	-0.27	14.48
M2T3AJ-560	1.20	0.01	0.06	4.60	-0.05	-0.16	15.00	0.17	0.14	15.12
MBZQCH-560	1.00	-0.19	-1.84	4.80	0.15	0.49	12.00	-2.83	-2.29	12.02
MEY29H-560	1.00	-0.19	-1.84	4.00	-0.65	-2.12	14.00	-0.83	-0.67	14.48
MJA69R-561	1.00	-0.19	-1.84	5.00	0.35	1.14	12.00	-2.83	-2.29	11.54
MLFM7N-560	1.50	0.31	2.92	4.50	-0.15	-0.49	12.00	-2.83	-2.29	19.47 X
MQU6LJ-561	1.20	0.01	0.06	4.80	0.15	0.49	14.80	-0.03	-0.02	14.48
MRLHQN-560	3.10	1.91	18.15 X	11.90	7.25	23.60 X	15.10	0.27	0.22	15.10
N28UQ8-561	1.30	0.11	1.02	4.50	-0.15	-0.49	17.00	2.17	1.76	16.79
NECZUE-561	1.23	0.04	0.35	3.98	-0.67	-2.18	18.00	3.17	2.57	18.00
NM7AXH-560	1.20	0.01	0.06	4.20	-0.45	-1.47	17.00	2.17	1.76	16.60
NRLKBL-560	1.30	0.11	1.02	4.90	0.25	0.81	15.40	0.57	0.46	15.39
P6HGP6-561	1.20	0.01	0.06	4.60	-0.05	-0.16	15.10	0.27	0.22	15.12
P6LZET-560	1.20	0.01	0.06	4.90	0.25	0.81	14.17	-0.66	-0.53	14.18
PFJJCM-560	1.20	0.01	0.06	4.80	0.15	0.49	14.00	-0.83	-0.67	14.48

TABLE 1  
Stain C, continued

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
PPPLEY- 560	1.20	0.01	0.06	4.70	0.05	0.16	14.80	-0.03	-0.02	14.79
Q9WB62- 561	1.00	-0.19	-1.84	4.30	-0.35	-1.14	13.50	-1.33	-1.08	13.45
QARWXT- 560	1.24	0.05	0.44	4.99	0.34	1.11	14.00	-0.83	-0.67	14.39
QB3WUM- 560	1.20	0.01	0.06	4.00	-0.65	-2.12	17.00	2.17	1.76	17.46
QDDJQF- 561	1.21	0.01	0.12	4.68	0.03	0.10	14.90	0.07	0.06	14.93
QKQRRH- 560	1.20	0.01	0.06	4.50	-0.15	-0.49	15.00	0.17	0.14	15.47
QP9RDP- 560	1.00	-0.19	-1.84	4.00	-0.65	-2.12	14.50	-0.33	-0.27	14.48
QQ49QL- 560	1.20	0.01	0.06	4.30	-0.35	-1.14	16.20	1.37	1.11	16.20
QUH7X9- 560	1.20	0.01	0.06	4.80	0.15	0.49	14.00	-0.83	-0.67	14.48
QWR73F- 560	1.20	0.01	0.06	4.90	0.25	0.81	14.00	-0.83	-0.67	14.18
R7PFWH- 560	1.34	0.15	1.40	4.73	0.08	0.26	16.40	1.57	1.27	16.46
RB37CC- 561	1.30	0.11	1.02	4.90	0.25	0.81	14.70	-0.13	-0.10	15.39
RFBGED- 560	1.20	0.01	0.06	4.40	-0.25	-0.82	15.80	0.97	0.79	15.83
RFCACL- 561	1.34	0.15	1.40	4.88	0.23	0.75	15.66	0.83	0.67	15.94
RG8YFE- 561	1.20	0.01	0.06	4.50	-0.15	-0.49	15.00	0.17	0.14	15.47
RGEVC9- 561	1.30	0.11	1.02	5.00	0.35	1.14	15.00	0.17	0.14	15.07
RR7Q2M- 561	1.20	0.01	0.06	5.00	0.35	1.14	13.89	-0.94	-0.76	13.89
RUANAU- 560	1.20	0.01	0.06	4.90	0.25	0.81	14.20	-0.63	-0.51	14.18
RVPK3U- 560	1.10	-0.09	-0.89	4.50	-0.15	-0.49	14.10	-0.73	-0.59	14.15
RX2BF6- 560	1.22	0.03	0.25	4.80	0.15	0.49	15.00	0.17	0.14	14.72
T3HGZG- 560	1.20	0.01	0.06	5.00	0.35	1.14	14.00	-0.83	-0.67	13.89
T3R6QB- 560	1.05	-0.14	-1.36	4.70	0.05	0.16	12.90	-1.93	-1.56	12.91
T8XXK7- 561	1.30	0.11	1.02	4.50	-0.15	-0.49	16.80	1.97	1.60	16.79
TBXAG7- 560	1.29	0.10	0.92	4.85	0.20	0.65	15.00	0.17	0.14	15.43



TABLE 1  
Stain C, continued

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
TJQ7HM-561	1.20	0.01	0.06	4.00	-0.65	-2.12	17.00	2.17	1.76	17.46
TR7ZJB-560	1.20	0.01	0.06	4.90	0.25	0.81	14.00	-0.83	-0.67	14.18
U3G28F-560	1.00	-0.19	-1.84	4.00	-0.65	-2.12	14.48	-0.35	-0.28	14.48
U8BV6G-560	0.94	-0.25	-2.41	3.18	-1.47	-4.79 X	17.00	2.17	1.76	17.19
UEU7EC-560	1.20	0.01	0.06	4.90	0.25	0.81	14.00	-0.83	-0.67	14.18
UGX2XE-561	1.20	0.01	0.06	4.50	-0.15	-0.49	15.00	0.17	0.14	15.47
UKHPWU-560	1.00	-0.19	-1.84	4.00	-0.65	-2.12	14.50	-0.33	-0.27	14.48
UR4MKG-560	1.20	0.01	0.06	4.80	0.15	0.49	14.50	-0.33	-0.27	14.48
UWET39-560	1.26	0.07	0.64	4.77	0.12	0.39	15.30	0.47	0.38	15.32
V2YF7D-560	1.20	0.01	0.06	4.50	-0.15	-0.49	15.00	0.17	0.14	15.47
V32T68-560	1.20	0.01	0.06	4.60	-0.05	-0.16	15.10	0.27	0.22	15.12
VAHD4D-561	1.00	-0.19	-1.84	3.75	-0.90	-2.93	15.46	0.63	0.51	15.47
VAXUX7-561	1.21	0.02	0.16	4.83	0.18	0.58	14.00	-0.83	-0.67	14.51
VBC4AR-560	1.20	0.01	0.06	4.50	-0.15	-0.49	15.00	0.17	0.14	15.47
VCHRKB-560	1.10	-0.09	-0.89	4.90	0.25	0.81	13.00	-1.83	-1.48	12.97
WDFV7-561	1.20	0.01	0.06	4.30	-0.35	-1.14	16.00	1.17	0.95	16.20
WYTG-561	11.70	10.51	99.99 X	42.30	37.65	122.59 X	16.10	1.27	1.03	16.06
VYWE7F-560	1.20	0.01	0.06	4.80	0.15	0.49	14.48	-0.35	-0.28	14.48
W2FNXT-560	1.25	0.06	0.54	4.57	-0.08	-0.26	15.90	1.07	0.87	15.87
W3ERQ4-560	1.20	0.01	0.06	4.70	0.05	0.16	14.80	-0.03	-0.02	14.79
WAHnk2-560	1.24	0.05	0.44	4.81	0.16	0.52	15.00	0.17	0.14	14.94
WLMUMM-561	1.20	0.01	0.06	4.40	-0.25	-0.82	15.80	0.97	0.79	15.83
WLQQJ6-560	1.20	0.01	0.06	5.00	0.35	1.14	14.00	-0.83	-0.67	13.89
WTAUQ8-561	1.20	0.01	0.06	4.80	0.15	0.49	14.50	-0.33	-0.27	14.48

TABLE 1  
Stain C, continued

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
WUJTXA-560	1.20	0.01	0.06	4.90	0.25	0.81	14.00	-0.83	-0.67	14.18
WUKLVG-561	1.20	0.01	0.06	4.50	-0.15	-0.49	15.47	0.64	0.52	15.47
WVEC2V-561	1.22	0.03	0.25	4.73	0.08	0.26	15.00	0.17	0.14	14.95
WXJ6T9-560	1.20	0.01	0.06	4.80	0.15	0.49	14.00	-0.83	-0.67	14.48
WXKWRG-560	1.20	0.01	0.06	4.00	-0.65	-2.12	17.00	2.17	1.76	17.46
WYEMVB-560	1.20	0.01	0.06	4.90	0.25	0.81	14.00	-0.83	-0.67	14.18
X3Q232-561	1.20	0.01	0.06	4.60	-0.05	-0.16	15.00	0.17	0.14	15.12
X6VJDQ-561	1.13	-0.06	-0.60	4.80	0.15	0.49	13.62	-1.21	-0.98	13.62
X8Z44B-560	1.20	0.01	0.06	4.60	-0.05	-0.16	15.00	0.17	0.14	15.12
XCBGKA-560	1.20	0.01	0.06	4.80	0.15	0.49	14.48	-0.35	-0.28	14.48
XD7ZMB-560	1.10	-0.09	-0.89	4.50	-0.15	-0.49	14.10	-0.73	-0.59	14.15
XLHWPW-561	1.18	-0.01	-0.13	4.43	-0.22	-0.72	16.00	1.17	0.95	15.45
XPH8LW-561	1.25	0.06	0.54	4.95	0.30	0.97	14.58	-0.25	-0.20	14.63
XRNRBH-560	1.10	-0.09	-0.89	4.80	0.15	0.49	13.20	-1.63	-1.32	13.25
XY8VHK-560	1.44	0.25	2.35	5.12	0.47	1.53	16.39	1.56	1.26	16.33
XZ3EKL-561	1.20	0.01	0.06	4.50	-0.15	-0.49	15.46	0.63	0.51	15.47
YR8VK4-561	1.20	0.01	0.06	5.00	0.35	1.14	13.90	-0.93	-0.75	13.89
YUUKQ3-560	1.20	0.01	0.06	4.80	0.15	0.49	14.00	-0.83	-0.67	14.48
YWY32Q-560	1.30	0.11	1.02	4.77	0.12	0.39	15.81	0.98	0.79	15.82
YXA6PB-560	1.31	0.12	1.11	4.60	-0.05	-0.16	17.00	2.17	1.76	16.55
Z4E29B-560	1.00	-0.19	-1.84	4.00	-0.65	-2.12	14.50	-0.33	-0.27	14.48
ZF9GXC-561	1.20	0.01	0.06	4.90	0.25	0.81	14.00	-0.83	-0.67	14.18
ZGFW6H-561	1.20	0.01	0.06	4.70	0.05	0.16	14.79	-0.04	-0.03	14.79
ZHAM9B-560	1.30	0.11	1.02	4.80	0.15	0.49	15.70	0.87	0.70	15.71

TABLE 1  
**Stain C, continued**

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
ZHHH66- 560	<b>1.10</b>	-0.09	-0.89	<b>4.00</b>	-0.65	-2.12	<b>16.00</b>	1.17	0.95	15.96
ZPDNDC- 560	<b>2.00</b>	0.81	7.68 X	<b>5.00</b>	0.35	1.14	<b>24.00</b>	9.17	7.43 X	23.58 X
ZQ8EJQ- 561	<b>1.20</b>	0.01	0.06	<b>4.70</b>	0.05	0.16	<b>15.00</b>	0.17	0.14	14.79
ZTY3P2- 561	<b>1.19</b>	0.00	-0.03	<b>4.82</b>	0.17	0.55	<b>14.30</b>	-0.53	-0.43	14.29
Grand Mean	<b>1.19</b>			<b>4.65</b>			<b>14.83</b>			<b>14.88</b>
Standard Deviation	<b>0.11</b>			<b>0.31</b>			<b>1.23</b>			<b>1.27</b>
Participants Included in calculations		212		212			216			215
Participants excluded from calculations (indicated by X)		8		8			4			5

Stain C Preparation Angle: 15.0°

TABLE 1  
Stain D

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
224JP7-561	2.30	0.00	0.00	5.00	-0.08	-0.29	27.74	0.66	0.31	27.39
296VL3-561	7.00	4.70	36.82 X	17.00	11.92	42.45 X	24.00	-3.08	-1.44	24.32
2DV6UF-561	2.00	-0.30	-2.35	5.00	-0.08	-0.29	23.00	-4.08	-1.90	23.58
2K3LD2-561	2.25	-0.05	-0.39	4.50	-0.58	-2.07	30.00	2.92	1.36	30.00
2KELAW-561	2.50	0.20	1.56	5.00	-0.08	-0.29	30.00	2.92	1.36	30.00
2KWNR6-561	2.30	0.00	0.00	5.30	0.22	0.78	25.40	-1.68	-0.78	25.72
2RXZPM-560	2.30	0.00	0.00	5.00	-0.08	-0.29	27.00	-0.08	-0.04	27.39
2UPMVW-561	2.80	0.50	3.91 X	5.50	0.42	1.49	31.00	3.92	1.83	30.60
36ZLRC-560	2.50	0.20	1.56	5.00	-0.08	-0.29	30.00	2.92	1.36	30.00
3ARV3B-561	2.10	-0.20	-1.57	4.30	-0.78	-2.78	29.20	2.12	0.99	29.23
3GBY8R-560	2.30	0.00	0.00	5.30	0.22	0.78	25.70	-1.38	-0.64	25.72
3LT8JX-560	2.36	0.06	0.47	5.09	0.01	0.03	28.00	0.92	0.43	27.62
3QJT46-560	2.20	-0.10	-0.79	5.40	0.32	1.13	24.04	-3.04	-1.42	24.04
3UH6Z6-561	2.30	0.00	0.00	5.40	0.32	1.13	25.00	-2.08	-0.97	25.21
3VDM27-560	2.30	0.00	0.00	5.20	0.12	0.42	26.30	-0.78	-0.36	26.25
49VYQL-560	2.30	0.00	0.00	5.40	0.32	1.13	25.20	-1.88	-0.88	25.21
4DBA4P-560	2.40	0.10	0.78	5.40	0.32	1.13	26.40	-0.68	-0.32	26.39
4DLED8-560	2.30	0.00	0.00	5.10	0.02	0.07	26.80	-0.28	-0.13	26.81
4G72CL-561	2.50	0.20	1.56	5.20	0.12	0.42	28.75	1.67	0.78	28.74
4H2KDN-561	2.30	0.00	0.00	5.20	0.12	0.42	27.38	0.30	0.14	26.25
4HG4XK-560	2.20	-0.10	-0.79	5.10	0.02	0.07	25.55	-1.53	-0.71	25.55
4JF7RV-560	2.20	-0.10	-0.79	5.30	0.22	0.78	24.52	-2.56	-1.19	24.53
4LFEUK-560	2.19	-0.11	-0.86	4.92	-0.16	-0.58	26.40	-0.68	-0.32	26.43
4P92YV-561	2.50	0.20	1.56	5.50	0.42	1.49	27.00	-0.08	-0.04	27.04

TABLE 1  
Stain D, continued

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
6CXX4Y- 561	2.30	0.00	0.00	5.40	0.32	1.13	25.00	-2.08	-0.97	25.21
6FCLMW- 560	2.25	-0.05	-0.39	4.87	-0.21	-0.75	28.00	0.92	0.43	27.52
6KLNN7- 560	3.00	0.70	5.48 X	5.00	-0.08	-0.29	37.00	9.92	4.63 X	36.87 X
6TWAAF- 560	2.30	0.00	0.00	5.10	0.02	0.07	26.30	-0.78	-0.36	26.81
6WVL8Z- 561	2.50	0.20	1.56	5.00	-0.08	-0.29	30.00	2.92	1.36	30.00
727YMD- 560	2.28	-0.02	-0.16	4.52	-0.56	-2.00	30.00	2.92	1.36	30.29
7CPFFK- 561	2.70	0.40	3.13 X	5.00	-0.08	-0.29	33.00	5.92	2.77	32.68
7DKYHL- 561	2.34	0.04	0.31	4.55	-0.53	-1.89	30.94	3.86	1.80	30.95
7PWAXP- 560	2.43	0.13	1.02	5.21	0.13	0.46	27.80	0.72	0.34	27.80
7R6P6V- 561	2.20	-0.10	-0.79	5.00	-0.08	-0.29	26.00	-1.08	-0.50	26.10
7VKZHY- 560	2.34	0.04	0.31	5.26	0.18	0.64	26.00	-1.08	-0.50	26.41
8AUC34- 561	2.30	0.00	0.00	4.90	-0.18	-0.65	28.00	0.92	0.43	27.99
8G2ULQ- 561	2.30	0.00	0.00	5.20	0.12	0.42	26.00	-1.08	-0.50	26.25
8GGYWA- 560	2.30	0.00	0.00	4.30	-0.78	-2.78	32.00	4.92	2.30	32.34
8KVHC6- 560	2.30	0.00	0.00	5.20	0.12	0.42	26.20	-0.88	-0.41	26.25
8LBWLZ- 560	2.50	0.20	1.56	4.70	-0.38	-1.36	32.13	5.05	2.36	32.13
8VDGM8- 560	2.30	0.00	0.00	4.30	-0.78	-2.78	32.00	4.92	2.30	32.34
8W9WY6- 561	2.30	0.00	0.00	5.20	0.12	0.42	26.00	-1.08	-0.50	26.25
98P4BY- 561	2.11	-0.19	-1.49	5.17	0.09	0.31	24.00	-3.08	-1.44	24.09
9D97FF- 561	2.40	0.10	0.78	5.40	0.32	1.13	26.10	-0.98	-0.46	26.39
9H7VU2- 560	2.40	0.10	0.78	5.40	0.32	1.13	26.40	-0.68	-0.32	26.39
9HRERL- 560	2.28	-0.02	-0.16	5.35	0.27	0.96	25.24	-1.84	-0.86	25.22
9P6ALV- 561	2.40	0.10	0.78	5.20	0.12	0.42	27.50	0.42	0.20	27.49
9PQQ3X- 561	2.38	0.08	0.62	5.28	0.20	0.71	26.80	-0.28	-0.13	26.79

TABLE 1  
**Stain D, continued**

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
9T6LHV-561	2.40	0.10	0.78	5.50	0.42	1.49	26.00	-1.08	-0.50	25.87
9VT3R3-560	2.27	-0.03	-0.24	5.11	0.03	0.10	26.40	-0.68	-0.32	26.37
9W6MTP-560	2.00	-0.30	-2.35	5.00	-0.08	-0.29	24.00	-3.08	-1.44	23.58
A3BJCP-560	2.40	0.10	0.78	5.00	-0.08	-0.29	28.70	1.62	0.76	28.69
A9GD7L-560	2.35	0.05	0.39	5.28	0.20	0.71	26.41	-0.67	-0.31	26.43
AEL3LK-560	2.40	0.10	0.78	5.00	-0.08	-0.29	28.70	1.62	0.76	28.69
AEYRLC-560	2.30	0.00	0.00	5.20	0.12	0.42	26.30	-0.78	-0.36	26.25
AG8VKU-560	2.30	0.00	0.00	5.20	0.12	0.42	26.30	-0.78	-0.36	26.25
AMCNPX-560	2.40	0.10	0.78	5.30	0.22	0.78	27.00	-0.08	-0.04	26.93
AMDGM6-560	2.50	0.20	1.56	5.00	-0.08	-0.29	30.00	2.92	1.36	30.00
AN98GQ-560	2.25	-0.05	-0.39	4.97	-0.11	-0.40	27.00	-0.08	-0.04	26.92
AVLD3W-561	2.20	-0.10	-0.79	5.00	-0.08	-0.29	26.10	-0.98	-0.46	26.10
AVTBNT-560	2.00	-0.30	-2.35	4.50	-0.58	-2.07	26.40	-0.68	-0.32	26.39
AWNQZQ-561	2.31	0.01	0.08	5.28	0.20	0.71	26.00	-1.08	-0.50	25.94
AYMD6E-560	2.20	-0.10	-0.79	5.20	0.12	0.42	25.00	-2.08	-0.97	25.03
BCATWK-560	2.20	-0.10	-0.79	4.80	-0.28	-1.00	27.30	0.22	0.10	27.28
BEEB7A-561	2.20	-0.10	-0.79	5.20	0.12	0.42	25.00	-2.08	-0.97	25.03
BHEM3A-560	2.35	0.05	0.39	5.11	0.03	0.10	27.00	-0.08	-0.04	27.38
BJ967V-561	2.40	0.10	0.78	5.30	0.22	0.78	26.60	-0.48	-0.22	26.93
BKL2AF-561	2.30	0.00	0.00	5.00	-0.08	-0.29	27.40	0.32	0.15	27.39
BXTMYZ-560	2.30	0.00	0.00	5.10	0.02	0.07	27.00	-0.08	-0.04	26.81
C69T9C-561	2.00	-0.30	-2.35	4.75	-0.33	-1.18	24.90	-2.18	-1.02	24.90
C7GJ3A-560	2.30	0.00	0.00	4.80	-0.28	-1.00	29.00	1.92	0.90	28.63
CAH7QA-560	2.30	0.00	0.00	5.50	0.42	1.49	24.70	-2.38	-1.11	24.72

TABLE 1  
Stain D, continued

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
CJ66GF-561	2.40	0.10	0.78	5.20	0.12	0.42	27.49	0.41	0.19	27.49
CJN2XL-560	2.22	-0.08	-0.63	5.25	0.17	0.60	25.00	-2.08	-0.97	25.02
CQ223X-560	2.40	0.10	0.78	5.00	-0.08	-0.29	28.70	1.62	0.76	28.69
CQPZMQ-561	11.00	8.70	68.15 X	23.00	17.92	63.82 X	29.00	1.92	0.90	28.57
CQRXTF-561	2.25	-0.05	-0.39	5.47	0.39	1.38	24.00	-3.08	-1.44	24.29
CVXQMB-561	2.30	0.00	0.00	5.30	0.22	0.78	25.00	-2.08	-0.97	25.72
D4VQMP-561	2.30	0.00	0.00	5.00	-0.08	-0.29	27.40	0.32	0.15	27.39
D96WD4-560	2.30	0.00	0.00	4.30	-0.78	-2.78	32.00	4.92	2.30	32.34
DGY276-561	2.40	0.10	0.78	5.40	0.32	1.13	26.00	-1.08	-0.50	26.39
DKXD6P-560	2.26	-0.04	-0.32	5.08	0.00	-0.01	26.42	-0.66	-0.31	26.42
E3RDPU-560	2.00	-0.30	-2.35	5.20	0.12	0.42	22.62	-4.46	-2.08	22.62
E4PNKX-560	2.35	0.05	0.39	5.15	0.07	0.24	27.10	0.02	0.01	27.15
E7CKTN-560	2.20	-0.10	-0.79	5.23	0.15	0.53	24.90	-2.18	-1.02	24.88
EE7G2K-561	2.48	0.18	1.43	5.03	-0.05	-0.17	28.50	1.42	0.66	29.56
EP9QLN-561	2.25	-0.05	-0.39	5.25	0.17	0.60	25.40	-1.68	-0.78	25.38
EYCZQT-560	2.10	-0.20	-1.57	5.20	0.12	0.42	23.80	-3.28	-1.53	23.82
F4JQUY-560	2.40	0.10	0.78	5.20	0.12	0.42	27.00	-0.08	-0.04	27.49
FA8EN4-561	2.30	0.00	0.00	4.90	-0.18	-0.65	28.00	0.92	0.43	27.99
FAPKNU-560	2.00	-0.30	-2.35	5.00	-0.08	-0.29	23.60	-3.48	-1.62	23.58
FE434Q-560	2.30	0.00	0.00	4.70	-0.38	-1.36	29.30	2.22	1.04	29.30
FJBNUV-560	2.50	0.20	1.56	5.05	-0.03	-0.11	29.67	2.59	1.21	29.67
FXE7RM-560	2.30	0.00	0.00	5.00	-0.08	-0.29	27.40	0.32	0.15	27.39
G2CVMZ-561	2.30	0.00	0.00	5.00	-0.08	-0.29	30.00	2.92	1.36	27.39
G2U4CV-560	2.00	-0.30	-2.35	5.00	-0.08	-0.29	24.00	-3.08	-1.44	23.58

TABLE 1  
Stain D, continued

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
G3LXBK-561	2.40	0.10	0.78	5.00	-0.08	-0.29	28.70	1.62	0.76	28.69
G3MUHA-561	2.60	0.30	2.35	5.40	0.32	1.13	28.80	1.72	0.80	28.78
GK8EPE-560	2.20	-0.10	-0.79	5.00	-0.08	-0.29	26.10	-0.98	-0.46	26.10
GN66KT-561	2.30	0.00	0.00	4.60	-0.48	-1.72	30.00	2.92	1.36	30.00
GQE6RK-560	2.40	0.10	0.78	5.20	0.12	0.42	27.00	-0.08	-0.04	27.49
GWF4GP-561	2.30	0.00	0.00	5.10	0.02	0.07	26.80	-0.28	-0.13	26.81
H27ZGZ-561	2.40	0.10	0.78	5.10	0.02	0.07	25.70	-1.38	-0.64	28.07
H64JER-560	2.20	-0.10	-0.79	5.30	0.22	0.78	24.50	-2.58	-1.20	24.53
H6AMGJ-560	2.30	0.00	0.00	4.80	-0.28	-1.00	29.00	1.92	0.90	28.63
H7FE2J-561	2.50	0.20	1.56	5.50	0.42	1.49	27.00	-0.08	-0.04	27.04
H94VBR-560	2.30	0.00	0.00	5.30	0.22	0.78	26.00	-1.08	-0.50	25.72
HMP624-560	23.00	20.70	162.16 X	54.00	48.92	174.23 X	25.20	-1.88	-0.88	25.21
HRJYY6-561	2.30	0.00	0.00	5.00	-0.08	-0.29	27.30	0.22	0.10	27.39
HXRETM-560	2.00	-0.30	-2.35	5.00	-0.08	-0.29	24.00	-3.08	-1.44	23.58
HZUC4F-561	2.40	0.10	0.78	5.50	0.42	1.49	26.00	-1.08	-0.50	25.87
J2LGA8-561	5.70	3.40	26.63 X	12.40	7.32	26.07 X	27.18	0.10	0.05	27.37
J9NT76-560	2.50	0.20	1.56	4.50	-0.58	-2.07	33.74	6.66	3.11 X	33.75 X
JAYJF-560	2.29	-0.01	-0.11	5.33	0.25	0.90	25.38	-1.70	-0.79	25.38
JTVVY-560	2.20	-0.10	-0.79	5.00	-0.08	-0.29	26.00	-1.08	-0.50	26.10
K7D78Q-560	2.30	0.00	0.00	5.10	0.02	0.07	26.00	-1.08	-0.50	26.81
K88WD6-560	2.30	0.00	0.00	5.00	-0.08	-0.29	27.39	0.31	0.15	27.39
KFFNHT-560	2.30	0.00	0.00	4.30	-0.78	-2.78	32.00	4.92	2.30	32.34
KKVYWW-561	2.30	0.00	0.00	4.30	-0.78	-2.78	32.00	4.92	2.30	32.34
KPQP4U-560	2.41	0.11	0.86	5.27	0.19	0.67	28.69	1.61	0.75	27.21



TABLE 1  
Stain D, continued

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
L9C27J-561	2.50	0.20	1.56	5.00	-0.08	-0.29	30.00	2.92	1.36	30.00
LB33AL-560	2.20	-0.10	-0.79	4.80	-0.28	-1.00	27.28	0.20	0.09	27.28
LJDA7P-560	2.30	0.00	0.00	5.00	-0.08	-0.29	27.40	0.32	0.15	27.39
LJTTQM-560	2.30	0.00	0.00	5.10	0.02	0.07	27.00	-0.08	-0.04	26.81
LNNMNN-560	23.00	20.70	162.16 X	52.00	46.92	167.11 X	26.00	-1.08	-0.50	26.25
LP238G-560	2.40	0.10	0.78	5.30	0.22	0.78	27.00	-0.08	-0.04	26.93
LQXHKE-560	2.40	0.10	0.78	5.20	0.12	0.42	27.50	0.42	0.20	27.49
LVM2FG-560	2.23	-0.07	-0.55	5.01	-0.07	-0.26	26.40	-0.68	-0.32	26.43
LXFXZ6-561	2.20	-0.10	-0.79	5.20	0.12	0.42	25.00	-2.08	-0.97	25.03
LZGY3M-561	2.30	0.00	0.00	5.00	-0.08	-0.29	27.40	0.32	0.15	27.39
M2T3AJ-560	2.40	0.10	0.78	5.30	0.22	0.78	27.00	-0.08	-0.04	26.93
MBZQCH-560	2.00	-0.30	-2.35	5.00	-0.08	-0.29	23.50	-3.58	-1.67	23.58
MEY29H-560	2.00	-0.30	-2.35	4.00	-1.08	-3.85 X	30.00	2.92	1.36	30.00
MJA69R-561	2.00	-0.30	-2.35	6.00	0.92	3.27 X	19.00	-8.08	-3.77 X	19.47 X
MLFM7N-560	2.00	-0.30	-2.35	4.70	-0.38	-1.36	24.00	-3.08	-1.44	25.18
MQU6LJ-561	2.40	0.10	0.78	5.00	-0.08	-0.29	28.70	1.62	0.76	28.69
MRLHQN-560	2.30	0.00	0.00	5.10	0.02	0.07	26.80	-0.28	-0.13	26.81
N28UQ8-561	2.40	0.10	0.78	4.80	-0.28	-1.00	30.00	2.92	1.36	30.00
NECZUE-561	2.33	0.03	0.23	4.80	-0.28	-1.00	29.00	1.92	0.90	29.04
NM7AXH-560	2.30	0.00	0.00	4.80	-0.28	-1.00	29.00	1.92	0.90	28.63
NRLKBL-560	2.40	0.10	0.78	5.40	0.32	1.13	26.40	-0.68	-0.32	26.39
P6HGP6-561	2.20	-0.10	-0.79	5.20	0.12	0.42	25.00	-2.08	-0.97	25.03
P6LZET-560	2.35	0.05	0.39	5.40	0.32	1.13	25.80	-1.28	-0.60	25.80
PFJJCM-560	2.40	0.10	0.78	5.20	0.12	0.42	27.00	-0.08	-0.04	27.49

TABLE 1  
Stain D, continued

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
PPPLEY-560	2.40	0.10	0.78	5.60	0.52	1.85	25.40	-1.68	-0.78	25.38
Q9WB62-561	2.20	-0.10	-0.79	4.70	-0.38	-1.36	28.00	0.92	0.43	27.91
QARWXT-560	2.34	0.04	0.31	5.39	0.31	1.10	26.00	-1.08	-0.50	25.73
QB3WUM-560	2.30	0.00	0.00	4.30	-0.78	-2.78	32.00	4.92	2.30	32.34
QDDJQF-561	2.29	-0.01	-0.08	4.73	-0.35	-1.25	29.00	1.92	0.90	28.96
QKQRRH-560	2.30	0.00	0.00	4.70	-0.38	-1.36	29.00	1.92	0.90	29.30
QP9RDP-560	3.00	0.70	5.48 X	5.00	-0.08	-0.29	37.00	9.92	4.63 X	36.87 X
QQ49QL-560	2.40	0.10	0.78	4.60	-0.48	-1.72	31.50	4.42	2.06	31.45
QUH7X9-560	2.30	0.00	0.00	5.20	0.12	0.42	26.00	-1.08	-0.50	26.25
QWR73F-560	2.10	-0.20	-1.57	5.50	0.42	1.49	22.00	-5.08	-2.37	22.45
R7PFWH-560	2.38	0.08	0.62	5.34	0.26	0.92	26.50	-0.58	-0.27	26.47
RB37CC-561	2.40	0.10	0.78	5.40	0.32	1.13	26.30	-0.78	-0.36	26.39
RFBGED-560	2.40	0.10	0.78	5.00	-0.08	-0.29	28.70	1.62	0.76	28.69
RFCACL-561	2.59	0.29	2.27	5.10	0.02	0.07	30.66	3.58	1.67	30.52
RG8YFE-561	2.40	0.10	0.78	5.10	0.02	0.07	27.00	-0.08	-0.04	28.07
RGEVC9-561	2.30	0.00	0.00	5.30	0.22	0.78	26.00	-1.08	-0.50	25.72
RR7Q2M-561	2.40	0.10	0.78	5.30	0.22	0.78	26.93	-0.15	-0.07	26.93
RUANAU-560	2.40	0.10	0.78	5.40	0.32	1.13	26.40	-0.68	-0.32	26.39
RVPK3U-560	2.30	0.00	0.00	4.90	-0.18	-0.65	28.00	0.92	0.43	27.99
RX2BF6-560	2.36	0.06	0.47	5.28	0.20	0.71	26.50	-0.58	-0.27	26.55
T3HGZG-560	2.40	0.10	0.78	5.10	0.02	0.07	28.00	0.92	0.43	28.07
T3R6QB-560	2.15	-0.15	-1.18	5.20	0.12	0.42	24.40	-2.68	-1.25	24.42
T8XXK7-561	2.40	0.10	0.78	5.00	-0.08	-0.29	28.70	1.62	0.76	28.69
TBXAG7-560	2.35	0.05	0.39	5.34	0.26	0.92	26.00	-1.08	-0.50	26.11

TABLE 1  
Stain D, continued

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
TJQ7HM-561	2.30	0.00	0.00	4.30	-0.78	-2.78	32.00	4.92	2.30	32.34
TR7ZJB-560	2.40	0.10	0.78	5.10	0.02	0.07	28.00	0.92	0.43	28.07
U3G28F-560	2.00	-0.30	-2.35	5.00	-0.08	-0.29	23.58	-3.50	-1.63	23.58
U8BV6G-560	2.10	-0.20	-1.57	4.65	-0.43	-1.54	27.00	-0.08	-0.04	26.85
UEU7EC-560	2.40	0.10	0.78	5.40	0.32	1.13	26.00	-1.08	-0.50	26.39
UGX2XE-561	2.30	0.00	0.00	5.10	0.02	0.07	27.00	-0.08	-0.04	26.81
UKHPWU-560	2.50	0.20	1.56	5.00	-0.08	-0.29	30.00	2.92	1.36	30.00
UR4MKG-560	2.30	0.00	0.00	5.20	0.12	0.42	26.30	-0.78	-0.36	26.25
UWET39-560	2.29	-0.01	-0.08	5.24	0.16	0.56	25.90	-1.18	-0.55	25.91
V2YF7D-560	2.20	-0.10	-0.79	4.00	-1.08	-3.85 X	33.00	5.92	2.77	33.37
V32T68-560	2.20	-0.10	-0.79	5.00	-0.08	-0.29	26.10	-0.98	-0.46	26.10
VAHD4D-561	2.00	-0.30	-2.35	4.50	-0.58	-2.07	26.38	-0.70	-0.33	26.39
VAXUX7-561	2.33	0.03	0.23	5.29	0.21	0.74	26.00	-1.08	-0.50	26.13
VBC4AR-560	2.10	-0.20	-1.57	5.00	-0.08	-0.29	25.00	-2.08	-0.97	24.83
VCHRKB-560	2.20	-0.10	-0.79	5.30	0.22	0.78	24.50	-2.58	-1.20	24.53
WDFV7-561	2.30	0.00	0.00	4.80	-0.28	-1.00	29.00	1.92	0.90	28.63
WYTG-561	23.20	20.90	163.73 X	48.50	43.42	154.65 X	28.60	1.52	0.71	28.58
VYWE7F-560	2.20	-0.10	-0.79	5.00	-0.08	-0.29	26.10	-0.98	-0.46	26.10
W2FNXT-560	2.33	0.03	0.23	5.18	0.10	0.35	26.74	-0.34	-0.16	26.73
W3ERQ4-560	2.30	0.00	0.00	5.20	0.12	0.42	26.30	-0.78	-0.36	26.25
WAHnk2-560	2.21	-0.09	-0.71	5.32	0.24	0.85	25.00	-2.08	-0.97	24.55
WLMUMM-561	2.20	-0.10	-0.79	5.20	0.12	0.42	25.00	-2.08	-0.97	25.03
WLQqJ6-560	2.50	0.20	1.56	5.50	0.42	1.49	27.00	-0.08	-0.04	27.04
WTAUQ8-561	2.20	-0.10	-0.79	5.10	0.02	0.07	26.00	-1.08	-0.50	25.55

TABLE 1  
Stain D, continued

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
WUJTXA-560	2.40	0.10	0.78	5.40	0.32	1.13	26.00	-1.08	-0.50	26.39
WUKLVG-561	2.10	-0.20	-1.57	5.00	-0.08	-0.29	24.83	-2.25	-1.05	24.83
WVEC2V-561	2.31	0.01	0.08	4.87	-0.21	-0.75	28.30	1.22	0.57	28.32
WXJ6T9-560	2.20	-0.10	-0.79	5.40	0.32	1.13	24.00	-3.08	-1.44	24.04
WXKWRG-560	2.20	-0.10	-0.79	4.40	-0.68	-2.43	30.00	2.92	1.36	30.00
WYEMVB-560	2.40	0.10	0.78	5.40	0.32	1.13	26.00	-1.08	-0.50	26.39
X3Q232-561	2.30	0.00	0.00	4.90	-0.18	-0.65	28.00	0.92	0.43	27.99
X6VJDQ-561	2.38	0.08	0.62	5.29	0.21	0.74	26.74	-0.34	-0.16	26.74
X8Z44B-560	2.40	0.10	0.78	5.00	-0.08	-0.29	29.00	1.92	0.90	28.69
XCBGKA-560	2.20	-0.10	-0.79	4.80	-0.28	-1.00	27.28	0.20	0.09	27.28
XD7ZMB-560	2.40	0.10	0.78	5.00	-0.08	-0.29	28.70	1.62	0.76	28.69
XLHWPW-561	2.35	0.05	0.39	5.10	0.02	0.07	28.00	0.92	0.43	27.44
XPH8LW-561	2.32	0.02	0.15	5.47	0.39	1.38	25.13	-1.95	-0.91	25.10
XRNRBH-560	2.50	0.20	1.56	5.00	-0.08	-0.29	30.00	2.92	1.36	30.00
XY8VHK-560	2.43	0.13	1.02	5.35	0.27	0.96	27.01	-0.07	-0.03	27.01
XZ3EKL-561	2.50	0.20	1.56	5.30	0.22	0.78	28.14	1.06	0.50	28.14
YR8VK4-561	2.40	0.10	0.78	5.50	0.42	1.49	25.90	-1.18	-0.55	25.87
YUUKQ3-560	2.30	0.00	0.00	5.60	0.52	1.85	24.00	-3.08	-1.44	24.25
YWY32Q-560	2.13	-0.17	-1.33	5.36	0.28	0.99	23.41	-3.67	-1.71	23.41
YXA6PB-560	2.30	0.00	0.00	5.10	0.02	0.07	27.00	-0.08	-0.04	26.81
Z4E29B-560	2.00	-0.30	-2.35	5.00	-0.08	-0.29	23.60	-3.48	-1.62	23.58
ZF9GXC-561	2.30	0.00	0.00	5.20	0.12	0.42	27.00	-0.08	-0.04	26.25
ZGFW6H-561	2.40	0.10	0.78	5.30	0.22	0.78	26.92	-0.16	-0.07	26.93
ZHAM9B-560	2.40	0.10	0.78	5.20	0.12	0.42	27.50	0.42	0.20	27.49

TABLE 1  
**Stain D, continued**

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
ZHHH66- 560	<b>2.60</b>	0.30	2.35	<b>4.80</b>	-0.28	-1.00	<b>33.00</b>	5.92	2.77	32.80
ZPDNDC- 560	<b>3.00</b>	0.70	5.48 X	<b>5.00</b>	-0.08	-0.29	<b>36.80</b>	9.72	4.54 X	36.87 X
ZQ8EJQ- 561	<b>2.30</b>	0.00	0.00	<b>5.00</b>	-0.08	-0.29	<b>27.00</b>	-0.08	-0.04	27.39
ZTY3P2- 561	<b>2.27</b>	-0.03	-0.24	<b>5.07</b>	-0.01	-0.04	<b>26.60</b>	-0.48	-0.22	26.60
Grand Mean	<b>2.30</b>			<b>5.08</b>			<b>27.08</b>			<b>27.10</b>
Standard Deviation	<b>0.13</b>			<b>0.28</b>			<b>2.14</b>			<b>2.13</b>
Participants Included in calculations	209			211			215			215
Participants excluded from calculations (indicated by X)	11			9			5			5

Stain D Preparation Angle: 27.8°

TABLE 1  
Stain E

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
224JP7-561	1.70	-0.06	-0.47	6.10	-0.12	-0.28	16.54	-0.01	-0.01	16.18
296VL3-561	6.00	4.24	35.46 X	20.00	13.78	32.93 X	18.00	1.45	0.89	17.46
2DV6UF-561	2.00	0.24	2.03	6.00	-0.22	-0.52	19.00	2.45	1.51	19.47
2K3LD2-561	1.75	-0.01	-0.06	5.25	-0.97	-2.32	19.00	2.45	1.51	19.47
2KELAW-561	1.90	0.14	1.20	6.10	-0.12	-0.28	18.00	1.45	0.89	18.15
2KWNR6-561	1.80	0.04	0.36	6.40	0.18	0.43	15.90	-0.65	-0.40	16.33
2RXZPM-560	1.70	-0.06	-0.47	6.00	-0.22	-0.52	16.00	-0.55	-0.34	16.46
2UPMVW-561	2.00	0.24	2.03	6.50	0.28	0.67	18.00	1.45	0.89	17.92
36ZLRC-560	2.00	0.24	2.03	6.00	-0.22	-0.52	20.00	3.45	2.13	19.47
3ARV3B-561	1.50	-0.26	-2.15	4.90	-1.32	-3.15 X	17.80	1.25	0.77	17.83
3GBY8R-560	1.70	-0.06	-0.47	6.50	0.28	0.67	15.20	-1.35	-0.84	15.16
3LT8JX-560	1.56	-0.20	-1.64	5.46	-0.76	-1.81	17.00	0.45	0.28	16.60
3QJT46-560	1.80	0.04	0.36	6.40	0.18	0.43	16.33	-0.22	-0.14	16.33
3UH6Z6-561	1.80	0.04	0.36	6.30	0.08	0.19	17.00	0.45	0.28	16.60
3VDM27-560	1.90	0.14	1.20	6.80	0.58	1.39	16.20	-0.35	-0.22	16.23
49VYQL-560	1.80	0.04	0.36	6.40	0.18	0.43	16.30	-0.25	-0.16	16.33
4DBA4P-560	1.80	0.04	0.36	6.80	0.58	1.39	15.30	-1.25	-0.77	15.35
4DLED8-560	1.80	0.04	0.36	6.20	-0.02	-0.05	16.87	0.32	0.20	16.88
4G72CL-561	1.90	0.14	1.20	6.60	0.38	0.91	16.74	0.19	0.12	16.73
4H2KDN-561	1.70	-0.06	-0.47	6.30	0.08	0.19	15.65	-0.90	-0.56	15.65
4HG4XK-560	1.70	-0.06	-0.47	6.00	-0.22	-0.52	16.46	-0.09	-0.06	16.46
4JF7RV-560	1.80	0.04	0.36	6.60	0.38	0.91	15.83	-0.72	-0.45	15.83
4LFEUK-560	1.50	-0.26	-2.15	6.35	0.13	0.31	13.60	-2.95	-1.83	13.66
4P92YV-561	1.80	0.04	0.36	6.70	0.48	1.15	16.00	-0.55	-0.34	15.58

TABLE 1  
Stain E, continued

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
6CXX4Y- 561	1.80	0.04	0.36	6.20	-0.02	-0.05	17.00	0.45	0.28	16.88
6FCLMW- 560	1.75	-0.01	-0.06	6.12	-0.10	-0.24	17.00	0.45	0.28	16.62
6KLNN7- 560	2.00	0.24	2.03	6.00	-0.22	-0.52	19.00	2.45	1.51	19.47
6TWAAF- 560	1.60	-0.16	-1.31	6.20	-0.02	-0.05	15.40	-1.15	-0.71	14.96
6WVL8Z- 561	1.75	-0.01	-0.06	6.00	-0.22	-0.52	17.00	0.45	0.28	16.96
727YMD- 560	1.67	-0.09	-0.72	5.45	-0.77	-1.84	18.00	1.45	0.89	17.84
7CPFFK- 561	1.90	0.14	1.20	6.00	-0.22	-0.52	18.00	1.45	0.89	18.46
7DKYHL- 561	1.74	-0.02	-0.14	5.33	-0.89	-2.12	19.05	2.50	1.54	19.05
7PWAXP- 560	1.83	0.07	0.61	6.33	0.11	0.27	16.80	0.25	0.15	16.80
7R6P6V- 561	1.60	-0.16	-1.31	6.60	0.38	0.91	14.00	-2.55	-1.58	14.03
7VKZHY- 560	1.73	-0.03	-0.22	6.34	0.12	0.29	16.00	-0.55	-0.34	15.84
8AUC34- 561	1.70	-0.06	-0.47	6.20	-0.02	-0.05	16.00	-0.55	-0.34	15.91
8G2ULQ- 561	1.80	0.04	0.36	6.20	-0.02	-0.05	17.00	0.45	0.28	16.88
8GGYWA- 560	1.70	-0.06	-0.47	5.00	-1.22	-2.91	20.00	3.45	2.13	19.88
8KVHC6- 560	1.70	-0.06	-0.47	6.20	-0.02	-0.05	15.90	-0.65	-0.40	15.91
8LBWLZ- 560	1.50	-0.26	-2.15	6.00	-0.22	-0.52	14.47	-2.08	-1.29	14.48
8VDGM8- 560	1.70	-0.06	-0.47	5.00	-1.22	-2.91	20.00	3.45	2.13	19.88
8W9WY6- 561	1.70	-0.06	-0.47	6.60	0.38	0.91	14.90	-1.65	-1.02	14.93
98P4BY- 561	1.63	-0.13	-1.06	6.68	0.46	1.10	14.00	-2.55	-1.58	14.12
9D97FF- 561	1.80	0.04	0.36	6.60	0.38	0.91	15.80	-0.75	-0.47	15.83
9H7VU2- 560	1.60	-0.16	-1.31	6.40	0.18	0.43	14.50	-2.05	-1.27	14.48
9HRERL- 560	1.79	0.03	0.28	6.57	0.35	0.84	15.82	-0.73	-0.45	15.81
9P6ALV- 561	1.90	0.14	1.20	6.30	0.08	0.19	17.50	0.95	0.59	17.55
9PQQ3X- 561	1.75	-0.01	-0.06	6.82	0.60	1.44	14.90	-1.65	-1.02	14.87

TABLE 1  
Stain E, continued

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
9T6LHV-561	1.80	0.04	0.36	6.80	0.58	1.39	15.00	-1.55	-0.96	15.35
9VT3R3-560	1.69	-0.07	-0.56	6.52	0.30	0.72	15.00	-1.55	-0.96	15.02
9W6MTP-560	1.50	-0.26	-2.15	6.50	0.28	0.67	13.00	-3.55	-2.20	13.34
A3BJCP-560	1.80	0.04	0.36	6.00	-0.22	-0.52	17.50	0.95	0.59	17.46
A9GD7L-560	1.73	-0.03	-0.22	6.30	0.08	0.19	15.97	-0.58	-0.36	15.94
AEL3LK-560	1.80	0.04	0.36	6.20	-0.02	-0.05	16.90	0.35	0.21	16.88
AEYRLC-560	1.70	-0.06	-0.47	6.30	0.08	0.19	15.70	-0.85	-0.53	15.65
AG8VKU-560	1.70	-0.06	-0.47	6.30	0.08	0.19	15.70	-0.85	-0.53	15.65
AMCNPX-560	1.80	0.04	0.36	6.50	0.28	0.67	16.00	-0.55	-0.34	16.08
AMDGM6-560	2.00	0.24	2.03	6.50	0.28	0.67	18.00	1.45	0.89	17.92
AN98GQ-560	1.77	0.01	0.11	6.08	-0.14	-0.33	17.00	0.45	0.28	16.92
AVLD3W-561	1.80	0.04	0.36	5.70	-0.52	-1.24	18.40	1.85	1.14	18.41
AVTBNT-560	1.50	-0.26	-2.15	6.00	-0.22	-0.52	14.50	-2.05	-1.27	14.48
AWNQZQ-561	1.69	-0.07	-0.56	6.32	0.10	0.24	15.00	-1.55	-0.96	15.51
AYMD6E-560	1.40	-0.36	-2.98	6.40	0.18	0.43	12.60	-3.95	-2.44	12.64
BCATWK-560	1.60	-0.16	-1.31	6.00	-0.22	-0.52	15.50	-1.05	-0.65	15.47
BEEB7A-561	1.80	0.04	0.36	6.20	-0.02	-0.05	17.00	0.45	0.28	16.88
BHEM3A-560	1.85	0.09	0.78	6.27	0.05	0.12	17.00	0.45	0.28	17.16
BJ967V-561	1.70	-0.06	-0.47	6.30	0.08	0.19	16.10	-0.45	-0.28	15.65
BKL2AF-561	1.70	-0.06	-0.47	6.40	0.18	0.43	15.40	-1.15	-0.71	15.40
BXTMYZ-560	1.70	-0.06	-0.47	6.10	-0.12	-0.28	16.00	-0.55	-0.34	16.18
C69T9C-561	1.50	-0.26	-2.15	6.00	-0.22	-0.52	14.50	-2.05	-1.27	14.48
C7GJ3A-560	1.90	0.14	1.20	5.90	-0.32	-0.76	19.00	2.45	1.51	18.79
CAH7QA-560	1.70	-0.06	-0.47	6.50	0.28	0.67	15.20	-1.35	-0.84	15.16



TABLE 1  
Stain E, continued

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
CJ66GF-561	1.70	-0.06	-0.47	6.10	-0.12	-0.28	16.18	-0.37	-0.23	16.18
CJN2XL-560	1.70	-0.06	-0.47	6.44	0.22	0.53	15.00	-1.55	-0.96	15.31
CQ223X-560	1.90	0.14	1.20	6.20	-0.02	-0.05	17.80	1.25	0.77	17.85
CQPZMQ-561	8.00	6.24	52.18 X	26.00	19.78	47.27 X	18.00	1.45	0.89	17.92
CQRXTF-561	1.75	-0.01	-0.06	6.79	0.57	1.36	15.00	-1.55	-0.96	14.94
CVXQMB-561	1.80	0.04	0.36	6.50	0.28	0.67	16.00	-0.55	-0.34	16.08
D4VQMP-561	1.70	-0.06	-0.47	6.30	0.08	0.19	15.60	-0.95	-0.59	15.65
D96WD4-560	1.70	-0.06	-0.47	5.00	-1.22	-2.91	20.00	3.45	2.13	19.88
DGY276-561	1.80	0.04	0.36	6.60	0.38	0.91	16.00	-0.55	-0.34	15.83
DKXD6P-560	1.65	-0.11	-0.89	6.32	0.10	0.24	15.13	-1.42	-0.88	15.13
E3RDPU-560	1.50	-0.26	-2.15	6.75	0.53	1.27	12.84	-3.71	-2.29	12.84
E4PNKX-560	1.72	-0.04	-0.31	6.37	0.15	0.36	15.70	-0.85	-0.53	15.67
E7CKTN-560	1.64	-0.12	-0.98	6.41	0.19	0.46	14.80	-1.75	-1.08	14.82
EE7G2K-561	1.92	0.16	1.36	6.24	0.02	0.05	17.30	0.75	0.46	17.92
EP9QLN-561	1.75	-0.01	-0.06	6.75	0.53	1.27	15.00	-1.55	-0.96	15.03
EYCZQT-560	1.80	0.04	0.36	6.00	-0.22	-0.52	17.50	0.95	0.59	17.46
F4JQUY-560	1.80	0.04	0.36	6.40	0.18	0.43	16.00	-0.55	-0.34	16.33
FA8EN4-561	1.80	0.04	0.36	6.40	0.18	0.43	16.00	-0.55	-0.34	16.33
FAPKNU-560	2.00	0.24	2.03	6.00	-0.22	-0.52	19.50	2.95	1.82	19.47
FE434Q-560	1.70	-0.06	-0.47	5.50	-0.72	-1.72	18.00	1.45	0.89	18.00
FJBNUVU-560	2.01	0.25	2.12	6.00	-0.22	-0.52	19.57	3.02	1.86	19.57
FXE7RM-560	1.70	-0.06	-0.47	6.20	-0.02	-0.05	15.90	-0.65	-0.40	15.91
G2CVMZ-561	2.00	0.24	2.03	6.00	-0.22	-0.52	20.00	3.45	2.13	19.47
G2U4CV-560	2.00	0.24	2.03	6.00	-0.22	-0.52	19.00	2.45	1.51	19.47

TABLE 1  
Stain E, continued

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
G3LXBK-561	1.80	0.04	0.36	6.30	0.08	0.19	16.60	0.05	0.03	16.60
G3MUHA-561	1.80	0.04	0.36	7.00	0.78	1.87	14.90	-1.65	-1.02	14.90
GK8EPE-560	1.60	-0.16	-1.31	6.00	-0.22	-0.52	15.40	-1.15	-0.71	15.47
GN66KT-561	1.75	-0.01	-0.06	5.75	-0.47	-1.12	17.72	1.17	0.72	17.72
GQE6RK-560	1.77	0.01	0.11	6.33	0.11	0.27	16.00	-0.55	-0.34	16.24
GWF4GP-561	1.70	-0.06	-0.47	6.30	0.08	0.19	15.65	-0.90	-0.56	15.65
H27ZGZ-561	1.90	0.14	1.20	6.30	0.08	0.19	18.20	1.65	1.02	17.55
H64JER-560	1.60	-0.16	-1.31	6.30	0.08	0.19	14.70	-1.85	-1.15	14.71
H6AMGJ-560	1.80	0.04	0.36	5.80	-0.42	-1.00	18.00	1.45	0.89	18.08
H7FE2J-561	2.00	0.24	2.03	7.00	0.78	1.87	17.00	0.45	0.28	16.60
H94VBR-560	1.80	0.04	0.36	6.60	0.38	0.91	16.00	-0.55	-0.34	15.83
HMP624-560	18.00	16.24	135.75 X	67.00	60.78	145.23 X	15.60	-0.95	-0.59	15.58
HRJYY6-561	1.70	-0.06	-0.47	6.20	-0.02	-0.05	15.90	-0.65	-0.40	15.91
HXRETM-560	2.00	0.24	2.03	6.00	-0.22	-0.52	19.00	2.45	1.51	19.47
HZUC4F-561	1.80	0.04	0.36	6.70	0.48	1.15	16.00	-0.55	-0.34	15.58
J2LGA8-561	4.30	2.54	21.25 X	15.40	9.18	21.94 X	16.24	-0.31	-0.19	16.21
J9NT76-560	2.00	0.24	2.03	6.00	-0.22	-0.52	19.47	2.92	1.80	19.47
JAYJF-560	1.65	-0.11	-0.88	6.60	0.38	0.92	14.48	-2.07	-1.28	14.48
JTVVYV-560	1.70	-0.06	-0.47	6.20	-0.02	-0.05	16.00	-0.55	-0.34	15.91
K7D78Q-560	1.70	-0.06	-0.47	6.70	0.48	1.15	14.00	-2.55	-1.58	14.70
K88WD6-560	1.70	-0.06	-0.47	5.90	-0.32	-0.76	16.75	0.20	0.12	16.75
KFFNHT-560	2.24	0.48	4.04 X	6.58	0.36	0.86	19.88	3.33	2.06	19.90
KKVYWW-561	1.70	-0.06	-0.47	5.00	-1.22	-2.91	20.00	3.45	2.13	19.88
KPQP4U-560	2.33	0.57	4.79 X	6.33	0.11	0.27	21.72	5.17	3.19 X	21.60 X

TABLE 1  
Stain E, continued

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
L9C27J-561	1.80	0.04	0.36	6.40	0.18	0.43	16.30	-0.25	-0.16	16.33
LB33AL-560	1.80	0.04	0.36	6.20	-0.02	-0.05	16.88	0.33	0.20	16.88
LJDA7P-560	1.70	-0.06	-0.47	6.00	-0.22	-0.52	16.40	-0.15	-0.09	16.46
LJTTQM-560	1.70	-0.06	-0.47	6.30	0.08	0.19	16.00	-0.55	-0.34	15.65
LNNMNN-560	17.00	15.24	127.39 X	65.00	58.78	140.46 X	15.00	-1.55	-0.96	15.16
LP238G-560	1.80	0.04	0.36	6.50	0.28	0.67	16.00	-0.55	-0.34	16.08
LQXHKE-560	1.90	0.14	1.20	6.20	-0.02	-0.05	17.80	1.25	0.77	17.85
LVM2FG-560	1.62	-0.14	-1.14	6.04	-0.18	-0.43	15.60	-0.95	-0.59	15.56
LXFXZ6-561	1.80	0.04	0.36	6.20	-0.02	-0.05	16.90	0.35	0.21	16.88
LZGY3M-561	1.70	-0.06	-0.47	6.00	-0.22	-0.52	16.50	-0.05	-0.03	16.46
M2T3AJ-560	1.70	-0.06	-0.47	5.90	-0.32	-0.76	17.00	0.45	0.28	16.75
MBZQCH-560	1.50	-0.26	-2.15	6.20	-0.02	-0.05	14.00	-2.55	-1.58	14.00
MEY29H-560	1.50	-0.26	-2.15	5.50	-0.72	-1.72	16.00	-0.55	-0.34	15.83
MJA69R-561	2.00	0.24	2.03	7.00	0.78	1.87	17.00	0.45	0.28	16.60
MLFM7N-560	1.50	-0.26	-2.15	6.00	-0.22	-0.52	18.00	1.45	0.89	14.48
MQU6LJ-561	1.80	0.04	0.36	6.30	0.08	0.19	16.60	0.05	0.03	16.60
MRLHQN-560	1.70	-0.06	-0.47	6.00	-0.22	-0.52	16.50	-0.05	-0.03	16.46
N28UQ8-561	1.80	0.04	0.36	5.70	-0.52	-1.24	18.00	1.45	0.89	18.41
NECZUE-561	1.76	0.00	0.03	5.33	-0.89	-2.12	19.30	2.75	1.70	19.28
NM7AXH-560	1.70	-0.06	-0.47	5.50	-0.72	-1.72	18.00	1.45	0.89	18.00
NRLKBL-560	1.80	0.04	0.36	6.50	0.28	0.67	16.10	-0.45	-0.28	16.08
P6HGP6-561	1.60	-0.16	-1.31	6.00	-0.22	-0.52	15.50	-1.05	-0.65	15.47
P6LZET-560	1.75	-0.01	-0.06	6.70	0.48	1.15	15.14	-1.41	-0.87	15.14
PFJJCM-560	1.80	0.04	0.36	6.40	0.18	0.43	16.00	-0.55	-0.34	16.33

TABLE 1  
Stain E, continued

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
PPPLEY-560	1.70	-0.06	-0.47	6.20	-0.02	-0.05	15.90	-0.65	-0.40	15.91
Q9WB62-561	1.80	0.04	0.36	5.90	-0.32	-0.76	17.00	0.45	0.28	17.76
QARWXT-560	1.76	0.00	0.03	6.55	0.33	0.79	16.00	-0.55	-0.34	15.59
QB3WUM-560	1.70	-0.06	-0.47	5.00	-1.22	-2.91	20.00	3.45	2.13	19.88
QDDJQF-561	1.75	-0.01	-0.06	5.78	-0.44	-1.05	17.60	1.05	0.65	17.62
QKQRRH-560	1.70	-0.06	-0.47	5.90	-0.32	-0.76	17.00	0.45	0.28	16.75
QP9RDP-560	2.00	0.24	2.03	6.00	-0.22	-0.52	19.00	2.45	1.51	19.47
QQ49QL-560	1.70	-0.06	-0.47	5.40	-0.82	-1.96	18.40	1.85	1.14	18.35
QUH7X9-560	1.70	-0.06	-0.47	6.40	0.18	0.43	15.00	-1.55	-0.96	15.40
QWR73F-560	1.60	-0.16	-1.31	6.30	0.08	0.19	14.00	-2.55	-1.58	14.71
R7PFWH-560	1.80	0.04	0.36	6.69	0.47	1.13	15.60	-0.95	-0.59	15.61
RB37CC-561	1.80	0.04	0.36	6.70	0.48	1.15	15.40	-1.15	-0.71	15.58
RFBGED-560	1.80	0.04	0.36	6.20	-0.02	-0.05	16.90	0.35	0.21	16.88
RFCACL-561	2.24	0.48	4.04 X	6.58	0.36	0.86	19.88	3.33	2.06	19.90
RG8YFE-561	1.80	0.04	0.36	6.00	-0.22	-0.52	16.00	-0.55	-0.34	17.46
RGEVC9-561	1.80	0.04	0.36	6.30	0.08	0.19	17.00	0.45	0.28	16.60
RR7Q2M-561	1.80	0.04	0.36	6.40	0.18	0.43	16.33	-0.22	-0.13	16.33
RUANAU-560	1.80	0.04	0.36	6.60	0.38	0.91	15.80	-0.75	-0.47	15.83
RVPK3U-560	1.70	-0.06	-0.47	5.90	-0.32	-0.76	16.70	0.15	0.09	16.75
RX2BF6-560	1.74	-0.02	-0.14	6.66	0.44	1.05	15.00	-1.55	-0.96	15.14
T3HGZG-560	1.80	0.04	0.36	6.70	0.48	1.15	16.00	-0.55	-0.34	15.58
T3R6QB-560	1.90	0.14	1.20	6.50	0.28	0.67	17.00	0.45	0.28	17.00
T8XXK7-561	1.70	-0.06	-0.47	5.80	-0.42	-1.00	17.00	0.45	0.28	17.04
TBXAG7-560	1.74	-0.02	-0.14	6.25	0.03	0.07	16.00	-0.55	-0.34	16.16

TABLE 1  
Stain E, continued

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
TJQ7HM-561	1.70	-0.06	-0.47	5.00	-1.22	-2.91	20.00	3.45	2.13	19.88
TR7ZJB-560	1.70	-0.06	-0.47	6.40	0.18	0.43	15.00	-1.55	-0.96	15.40
U3G28F-560	2.00	0.24	2.03	6.00	-0.22	-0.52	19.47	2.92	1.80	19.47
U8BV6G-560	1.61	-0.15	-1.23	5.56	-0.66	-1.57	17.00	0.45	0.28	16.83
UEU7EC-560	1.80	0.04	0.36	6.40	0.18	0.43	16.00	-0.55	-0.34	16.33
UGX2XE-561	1.70	-0.06	-0.47	5.90	-0.32	-0.76	17.00	0.45	0.28	16.75
UKHPWU-560	2.00	0.24	2.03	4.50	-1.72	-4.11 X	26.00	9.45	5.84 X	26.39 X
UR4MKG-560	1.60	-0.16	-1.31	6.60	0.38	0.91	14.00	-2.55	-1.58	14.03
UWET39-560	1.73	-0.03	-0.22	6.38	0.16	0.38	15.70	-0.85	-0.53	15.73
V2YF7D-560	1.90	0.14	1.20	6.00	-0.22	-0.52	18.00	1.45	0.89	18.46
V32T68-560	1.60	-0.16	-1.31	6.40	0.18	0.43	14.50	-2.05	-1.27	14.48
VAHD4D-561	1.75	-0.01	-0.06	5.00	-1.22	-2.91	20.48	3.93	2.43	20.49
VAXUX7-561	1.63	-0.13	-1.06	6.38	0.16	0.38	15.00	-1.55	-0.96	14.80
VBC4AR-560	1.60	-0.16	-1.31	6.00	-0.22	-0.52	15.00	-1.55	-0.96	15.47
VCHRKB-560	1.60	-0.16	-1.31	6.60	0.38	0.91	14.00	-2.55	-1.58	14.03
WDFV7-561	1.80	0.04	0.36	5.70	-0.52	-1.24	18.00	1.45	0.89	18.41
WYTG-561	16.40	14.64	122.38 X	59.80	53.58	128.03 X	15.90	-0.65	-0.40	15.92
VYWE7F-560	1.70	-0.06	-0.47	6.40	0.18	0.43	15.40	-1.15	-0.71	15.40
W2FNXT-560	1.79	0.03	0.28	6.52	0.30	0.72	16.00	-0.55	-0.34	15.93
W3ERQ4-560	1.70	-0.06	-0.47	6.50	0.28	0.67	15.20	-1.35	-0.84	15.16
WAHnk2-560	1.68	-0.08	-0.64	6.64	0.42	1.01	15.00	-1.55	-0.96	14.66
WLMUMM-561	1.80	0.04	0.36	6.30	0.08	0.19	16.60	0.05	0.03	16.60
WLQQJ6-560	1.80	0.04	0.36	7.00	0.78	1.87	15.00	-1.55	-0.96	14.90
WTAUQ8-561	1.80	0.04	0.36	6.70	0.48	1.15	16.00	-0.55	-0.34	15.58

TABLE 1  
Stain E, continued

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
WUJTXA-560	1.70	-0.06	-0.47	6.50	0.28	0.67	15.00	-1.55	-0.96	15.16
WUKLVG-561	2.00	0.24	2.03	7.00	0.78	1.87	16.60	0.05	0.03	16.60
WVEC2V-561	1.72	-0.04	-0.31	6.11	-0.11	-0.26	16.40	-0.15	-0.09	16.35
WXJ6T9-560	1.80	0.04	0.36	6.40	0.18	0.43	16.00	-0.55	-0.34	16.33
WXKWRG-560	1.70	-0.06	-0.47	5.00	-1.22	-2.91	20.00	3.45	2.13	19.88
WYEMVB-560	1.70	-0.06	-0.47	6.80	0.58	1.39	14.00	-2.55	-1.58	14.48
X3Q232-561	1.70	-0.06	-0.47	6.10	-0.12	-0.28	16.00	-0.55	-0.34	16.18
X6VJDQ-561	1.78	0.02	0.19	6.60	0.38	0.91	15.65	-0.90	-0.56	15.65
X8Z44B-560	1.80	0.04	0.36	5.60	-0.62	-1.48	19.00	2.45	1.51	18.75
XCBGKA-560	1.80	0.04	0.36	6.20	-0.02	-0.05	16.88	0.33	0.20	16.88
XD7ZMB-560	1.75	-0.01	-0.06	6.00	-0.22	-0.52	17.00	0.45	0.28	16.96
XLHWPW-561	1.67	-0.09	-0.72	6.03	-0.19	-0.45	16.00	-0.55	-0.34	16.08
XPH8LW-561	1.75	-0.01	-0.06	6.59	0.37	0.89	15.41	-1.14	-0.71	15.40
XRNRBH-560	1.90	0.14	1.20	6.10	-0.12	-0.28	18.10	1.55	0.96	18.15
XY8VHK-560	1.93	0.17	1.45	6.64	0.42	1.01	16.94	0.39	0.24	16.90
XZ3EKL-561	1.80	0.04	0.36	6.50	0.28	0.67	16.07	-0.48	-0.30	16.08
YR8VK4-561	1.80	0.04	0.36	6.40	0.18	0.43	16.30	-0.25	-0.16	16.33
YUUKQ3-560	1.70	-0.06	-0.47	7.00	0.78	1.87	14.00	-2.55	-1.58	14.06
YWY32Q-560	1.94	0.18	1.53	6.31	0.09	0.22	17.90	1.35	0.83	17.91
YXA6PB-560	1.80	0.04	0.36	6.29	0.07	0.17	16.00	-0.55	-0.34	16.63
Z4E29B-560	2.00	0.24	2.03	6.00	-0.22	-0.52	19.50	2.95	1.82	19.47
ZF9GXC-561	1.80	0.04	0.36	6.30	0.08	0.19	16.00	-0.55	-0.34	16.60
ZGFW6H-561	1.70	-0.06	-0.47	6.50	0.28	0.67	15.16	-1.39	-0.86	15.16
ZHAM9B-560	1.80	0.04	0.36	6.40	0.18	0.43	16.30	-0.25	-0.16	16.33

TABLE 1  
**Stain E, continued**

WebCode- Test	Width			Length			Angle			CalcAng
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	
ZHHH66- 560	<b>1.90</b>	0.14	1.20	<b>5.90</b>	-0.32	-0.76	<b>19.00</b>	2.45	1.51	18.79
ZPDNDC- 560	<b>2.50</b>	0.74	6.21 X	<b>7.00</b>	0.78	1.87	<b>21.00</b>	4.45	2.75	20.92
ZQ8EJQ- 561	<b>1.80</b>	0.04	0.36	<b>6.00</b>	-0.22	-0.52	<b>17.00</b>	0.45	0.28	17.46
ZTY3P2- 561	<b>1.67</b>	-0.09	-0.72	<b>6.05</b>	-0.17	-0.40	<b>16.00</b>	-0.55	-0.34	16.02
Grand Mean	<b>1.76</b>			<b>6.22</b>			<b>16.55</b>			<b>16.56</b>
Standard Deviation	<b>0.12</b>			<b>0.42</b>			<b>1.62</b>			<b>1.60</b>
Participants Included in calculations		210			212			218		218
Participants excluded from calculations (indicated by X)		10			8			2		2

Stain E Preparation Angle: 15.2°

# Pattern Description - Part 1

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

TABLE 2: Mechanism of Deposition

## Item 2

WebCode-Test	Pattern Type	WebCode-Test	Pattern Type
224JP7-561	Projected Pattern	4DLED8-560	Impact Pattern
296VL3-561	Impact Pattern	4G72CL-561	Impact Pattern
2DV6UF-561	Impact Pattern	4H2KDN-561	Impact Pattern
2K3LD2-561	Impact Pattern	4HG4XK-560	Impact Pattern
2KELAW-561	Impact Pattern	4JF7RV-560	Impact Pattern
2KWNR6-561	Impact Pattern	4LFEUK-560	Impact Pattern
2RXZPM-560	Impact Pattern	4P92YV-561	Impact Pattern
2UPMW-561	Impact Pattern	6CXX4Y-561	Impact Pattern
2VZPGV-560	Impact Pattern	6FCLMW-560	Impact Pattern
2YYZDV-560	Impact Pattern	6KLNN7-560	Impact Pattern
36ZLRC-560	Impact Pattern	6TWAAF-560	Impact Pattern
3ARV3B-561	Impact Pattern	6WVL8Z-561	Impact Pattern
3GBY8R-560	Impact Pattern	727YMD-560	Impact Pattern
3LT8JX-560	Impact Pattern	7CPFFK-561	Impact Pattern
3QJT46-560	Impact Pattern	7DKYHL-561	Splash Pattern
3UH6Z6-561	Projected Pattern	7PWAXP-560	Impact Pattern
3VDM27-560	Impact Pattern	7QTTYQ-560	Impact Pattern
3XEV7G-561	Impact Pattern	7R6P6V-561	Projected Pattern
44NAP2-560	Impact Pattern	7VKZHY-560	Impact Pattern
49VYQL-560	Impact Pattern	8AUC34-561	Impact Pattern
4DBA4P-560	Impact Pattern		



TABLE 2: Mechanism of Deposition

**Item 2, continued**

<b>WebCode-Test</b>	<b>Pattern Type</b>	<b>WebCode-Test</b>	<b>Pattern Type</b>
8C7ZNP-560	Impact Pattern	AMCNPX-560	Impact Pattern
8G2ULQ-561	Impact Pattern	AMDGM6-560	Impact Pattern
8GGYWA-560	Impact Pattern	AN98GQ-560	Impact Pattern
8KVHC6-560	Impact Pattern	AVLD3W-561	Impact Pattern
8LBWLZ-560	Splash Pattern	AVTBNT-560	Impact Pattern
8VDGM8-560	Impact Pattern	AWNQZQ-561	Impact Pattern
8W9WY6-561	Impact Pattern	AYMD6E-560	Projected Pattern
98P4BY-561	Impact Pattern	BCATWK-560	Impact Pattern
9D97FF-561	Impact Pattern	BEEB7A-561	Impact Pattern
9EK7EV-560	Impact Pattern	BHEM3A-560	Impact Pattern
9H7VU2-560	Impact Pattern	BJ967V-561	Impact Pattern
9HRERL-560	Impact Pattern	BJDM6U-560	Impact Pattern
9NU9ZW-560	Impact Pattern	BKL2AF-561	Impact Pattern
9P6ALV-561	Impact Pattern	BXTMYZ-560	Impact Pattern
9PQQ3X-561	Impact Pattern	C69T9C-561	Impact Pattern
9T6LHV-561	Impact Pattern	C7GJ3A-560	Projected Pattern
9VT3R3-560	Impact Pattern	CAH7QA-560	Impact Pattern
9W6MTP-560	Impact Pattern	CJ66GF-561	Impact Pattern
A3BJCP-560	Impact Pattern	CJN2XL-560	Impact Pattern
A9GD7L-560	Impact Pattern	CQ223X-560	Impact Pattern
AEL3LK-560	Impact Pattern	CQPZMQ-561	Impact Pattern
AEYRLC-560	Impact Pattern	CQRXTF-561	Splash Pattern
AG8VKU-560	Impact Pattern	CVXQMB-561	Impact Pattern

TABLE 2: Mechanism of Deposition

**Item 2, continued**

<b>WebCode-Test</b>	<b>Pattern Type</b>	<b>WebCode-Test</b>	<b>Pattern Type</b>
D4VQMP-561	Impact Pattern	GN66KT-561	Impact Pattern
D96WD4-560	Impact Pattern	GQE6RK-560	Impact Pattern
DGY276-561	Impact Pattern	GWF4GP-561	Impact Pattern
DKXD6P-560	Impact Pattern	H27ZGZ-561	Splash Pattern
E3RDPU-560	Impact Pattern	H64JER-560	Impact Pattern
E4PNKX-560	Impact Pattern	H6AMGJ-560	Impact Pattern
E7CKTN-560	Impact Pattern	H7FE2J-561	Impact Pattern
EB7EQP-560	Impact Pattern	H94VBR-560	Impact Pattern
EE7G2K-561	Impact Pattern	HJQHWF-560	Impact Pattern
EP9QLN-561	Impact Pattern	HMP624-560	Impact Pattern
EYCZQT-560	Impact Pattern	HRJYY6-561	Impact Pattern
F4JQUY-560	Impact Pattern	HXRETM-560	Impact Pattern
FA8EN4-561	Impact Pattern	HZUC4F-561	Impact Pattern
FAPKNU-560	Impact Pattern	J2LGA8-561	Impact Pattern
FE434Q-560	Impact Pattern	J9NT76-560	Impact Pattern
FJBNVU-560	Impact Pattern	JAYJF-560	Impact Pattern
FQB9XP-560	Impact Pattern	JTVYVY-560	Impact Pattern
FXE7RM-560	Impact Pattern	K7D78Q-560	Impact Pattern
G2CVMZ-561	Impact Pattern	K88WD6-560	Impact Pattern
G2U4CV-560	Impact Pattern	KFFNHT-560	Impact Pattern
G3LXBK-561	Impact Pattern	KKVYWW-561	Impact Pattern
G3MUHA-561	Impact Pattern	KPQP4U-560	Impact Pattern
GK8EPE-560	Impact Pattern	L9C27J-561	Impact Pattern

TABLE 2: Mechanism of Deposition

**Item 2, continued**

<b>WebCode-Test</b>	<b>Pattern Type</b>	<b>WebCode-Test</b>	<b>Pattern Type</b>
LB33AL-560	Impact Pattern	P6LZET-560	Impact Pattern
LJDA7P-560	Impact Pattern	PFJJCM-560	Impact Pattern
LJTTQM-560	Impact Pattern	PPPLEY-560	Impact Pattern
LNNMNN-560	Projected Pattern	Q464NE-560	Impact Pattern
LP238G-560	Impact Pattern	Q9WB62-561	Impact Pattern
LQXHKE-560	Impact Pattern	QARWXT-560	Expiration Pattern
LVM2FG-560	Impact Pattern	QB3WUM-560	Impact Pattern
LXFXZ6-561	Impact Pattern	QDDJQF-561	Impact Pattern
LZGY3M-561	Impact Pattern	QKQRRH-560	Impact Pattern
M2T3AJ-560	Impact Pattern	QP9RDP-560	Impact Pattern
M398XA-560	Impact Pattern	QQ49QL-560	Impact Pattern
MBZQCH-560	Impact Pattern	QUH7X9-560	Impact Pattern
MEY29H-560	Impact Pattern	QWR73F-560	Impact Pattern
MJA69R-561	Impact Pattern	R7PFWH-560	Impact Pattern
MLFM7N-560	Impact Pattern	RB37CC-561	Impact Pattern
MQU6LJ-561	Impact Pattern	RFBGED-560	Projected Pattern
MRLHQN-560	Impact Pattern	RFCACL-561	Impact Pattern
N28UQ8-561	Impact Pattern	RG8YFE-561	Impact Pattern
NECZUE-561	Impact Pattern	RGEVC9-561	Impact Pattern
NM7AXH-560	Projected Pattern	RR7Q2M-561	Impact Pattern
NRLKBL-560	Impact Pattern	RUANAU-560	Impact Pattern
NYL3QX-560	Impact Pattern	RVPK3U-560	Impact Pattern
P6HGP6-561	Impact Pattern	RWK9GJ-561	Impact Pattern

TABLE 2: Mechanism of Deposition

**Item 2, continued**

<b>WebCode-Test</b>	<b>Pattern Type</b>	<b>WebCode-Test</b>	<b>Pattern Type</b>
RX2BF6-560	Impact Pattern	VYWE7F-560	Impact Pattern
T3HGZG-560	Impact Pattern	W2FNXT-560	Impact Pattern
T3R6QB-560	Impact Pattern	W3ERQ4-560	Impact Pattern
T8XXK7-561	Impact Pattern	WAHMK2-560	Impact Pattern
TBXAG7-560	Impact Pattern	WLMUMM-561	Projected Pattern
TJQ7HM-561	Impact Pattern	WLQQJ6-560	Impact Pattern
TR7ZJB-560	Impact Pattern	WTAUQ8-561	Impact Pattern
U3G28F-560	Impact Pattern	WUJTXA-560	Impact Pattern
U8BV6G-560	Impact Pattern	WUKLVG-561	Impact Pattern
UEU7EC-560	Impact Pattern	WVEC2V-561	Impact Pattern
UEYAG4-560	Impact Pattern	WXJ6T9-560	Impact Pattern
UGX2XE-561	Impact Pattern	WXKWRG-560	Impact Pattern
UKHPWU-560	Impact Pattern	WYEMVB-560	Impact Pattern
UR4MKG-560	Impact Pattern	X3Q232-561	Impact Pattern
UWET39-560	Impact Pattern	X6VJDQ-561	Impact Pattern
V2YF7D-560	Impact Pattern	X8Z44B-560	Projected Pattern
V32T68-560	Impact Pattern	XCBGKA-560	Impact Pattern
VAHD4D-561	Impact Pattern	XD7ZMB-560	Impact Pattern
VAXUX7-561	Impact Pattern	XLHWPW-561	Impact Pattern
VBC4AR-560	Projected Pattern	XMGYJ8-560	Impact Pattern
VCHRKB-560	Impact Pattern	XPH8LW-561	Expiration Pattern
VVDFV7-561	Impact Pattern	XRNRBH-560	Impact Pattern
VWYTG7-561	Impact Pattern	XY8VHK-560	Impact Pattern

TABLE 2: Mechanism of Deposition

**Item 2, continued**

<b>WebCode-Test</b>	<b>Pattern Type</b>	<b>WebCode-Test</b>	<b>Pattern Type</b>
XZ3EKL-561	Impact Pattern		
Y4GL9X-560	Impact Pattern		
YR8VK4-561	Impact Pattern		
YUUKQ3-560	Impact Pattern		
YWY32Q-560	Impact Pattern		
YXA6PB-560	Impact Pattern		
Z4E29B-560	Impact Pattern		
ZF9GXC-561	Impact Pattern		
ZGFW6H-561	Impact Pattern, Splash Pattern		
ZHAM9B-560	Impact Pattern		
ZHHH66-560	Impact Pattern		
ZPDNDC-560	Impact Pattern		
ZQ8EJQ-561	Impact Pattern		
ZTY3P2-561	Impact Pattern		

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**Pattern Types reported for Item 2  
(Total Participants Responding = 239)**

<u>Pattern Type</u>	<u>Percent Reported</u>
Impact Pattern	221 (92.5%)
Projected Pattern	11 (4.6%)
Splash Pattern	4 (1.7%)
Expiration Pattern	2 (0.8%)
Impact Pattern, Splash Pattern	1 (0.4%)

TABLE 2: Mechanism of Deposition

**Item 3**

<b>WebCode-Test</b>	<b>Pattern Type</b>	<b>WebCode-Test</b>	<b>Pattern Type</b>
224JP7-561	Drip Pattern	4H2KDN-561	Cast-off Pattern
296VL3-561	Drip Stain	4HG4XK-560	Drip Stain
2DV6UF-561	Cessation Cast-Off Pattern	4JF7RV-560	Cast-off Pattern
2K3LD2-561	Cast-off Pattern	4LFEUK-560	Drip Stain
2KELAW-561	Cast-off Pattern	4P92YV-561	Cast-off Pattern
2KWNR6-561	Cast-off Pattern	6CX4Y-561	Cast-off Pattern
2RXZPM-560	Drip Stain	6FCLMW-560	Cast-off Pattern
2UPMWW-561	Cast-off Pattern	6KLNN7-560	Drip Stain
2VZPGV-560	Cast-off Pattern	6TWAAF-560	Cast-off Pattern
2YYZDV-560	Cast-off Pattern	6WVL8Z-561	Cast-off Pattern
36ZLRC-560	Cessation Cast-Off Pattern	727YMD-560	Cast-off Pattern
3ARV3B-561	Cast-off Pattern	7CPFFK-561	Cast-off Pattern
3GBY8R-560	Cast-off Pattern	7DKYHL-561	Drip Pattern
3LT8JX-560	Cast-off Pattern	7PWAXP-560	Cast-off Pattern
3QJT46-560	Cast-off Pattern	7QTTYQ-560	Cast-off Pattern
3UH6Z6-561	Cast-off Pattern	7R6P6V-561	Cast-off Pattern
3VDM27-560	Cast-off Pattern	7VKZHY-560	Drip Stain
3XEV7G-561	Cast-off Pattern	8AUC34-561	Cast-off Pattern
44NAP2-560	Cast-off Pattern	8C7ZNP-560	Cast-off Pattern
49VYQL-560	Cast-off Pattern	8G2ULQ-561	Cast-off Pattern
4DBA4P-560	Cast-off Pattern	8GGYWA-560	Drip Pattern
4DLED8-560	Drip Stain	8KVHC6-560	Cast-off Pattern
4G72CL-561	Cessation Cast-Off Pattern	8LBWLZ-560	Cast-off Pattern

TABLE 2: Mechanism of Deposition

**Item 3, continued**

<b>WebCode-Test</b>	<b>Pattern Type</b>	<b>WebCode-Test</b>	<b>Pattern Type</b>
8VDGM8-560	Drip Pattern	AWNQZQ-561	Cast-off Pattern
8W9WY6-561	Cast-off Pattern	AYMD6E-560	Cast-off Pattern
98P4BY-561	Drip Stain	BCATWK-560	Cast-off Pattern
9D97FF-561	Cast-off Pattern	BEEB7A-561	Cast-off Pattern
9EK7EV-560	Cast-off Pattern	BHEM3A-560	Cast-off Pattern
9H7VU2-560	Cast-off Pattern	BJ967V-561	Drip Pattern
9HRERL-560	Cast-off Pattern	BJDM6U-560	Cast-off Pattern
9NU9ZW-560	Cast-off Pattern	BKL2AF-561	Drip Pattern
9P6ALV-561	Cast-off Pattern	BXTMYZ-560	Cast-off Pattern
9PQQ3X-561	Cast-off Pattern	C69T9C-561	Cast-off Pattern
9T6LHV-561	Cast-off Pattern	C7GJ3A-560	Cast-off Pattern
9VT3R3-560	Cast-off Pattern	CAH7QA-560	Drip Stain
9W6MTP-560	Drip Stain	CJ66GF-561	Cast-off Pattern
A3BJCP-560	Cast-off Pattern	CJN2XL-560	Cast-off Pattern
A9GD7L-560	Cast-off Pattern	CQ223X-560	Cast-off Pattern
AEL3LK-560	Drip Stain	CQPZMQ-561	Drip Pattern
AEYRLC-560	Cast-off Pattern	CQRXTF-561	Drip Pattern
AG8VKU-560	Cast-off Pattern	CVXQMB-561	Cast-off Pattern
AMCNPX-560	Cast-off Pattern	D4VQMP-561	Cast-off Pattern
AMDGM6-560	Cessation Cast-Off Pattern	D96WD4-560	Drip Pattern
AN98GQ-560	Cast-off Pattern	DGY276-561	Cast-off Pattern
AVLD3W-561	Cast-off Pattern	DKXD6P-560	Cast-off Pattern
AVTBNT-560	Cast-off Pattern	E3RDPU-560	Cast-off Pattern

TABLE 2: Mechanism of Deposition

**Item 3, continued**

<b>WebCode-Test</b>	<b>Pattern Type</b>	<b>WebCode-Test</b>	<b>Pattern Type</b>
E4PNKX-560	Cast-off Pattern	H6AMGJ-560	Cast-off Pattern
E7CKTN-560	Cast-off Pattern	H7FE2J-561	Cast-off Pattern
EB7EQP-560	Cast-off Pattern	H94VBR-560	Cast-off Pattern
EE7G2K-561	Cast-off Pattern	HJQHWF-560	Cast-off Pattern
EP9QLN-561	Cast-off Pattern	HMP624-560	Cast-off Pattern
EYCZQT-560	Drip Pattern	HRJYY6-561	Cast-off Pattern
F4JQUY-560	Cast-off Pattern	HXRETM-560	Drip Pattern
FA8EN4-561	Cast-off Pattern	HZUC4F-561	Cast-off Pattern
FAPKNU-560	Cast-off Pattern	J2LGA8-561	Cast-off Pattern
FE434Q-560	Cast-off Pattern	J9NT76-560	Cast-off Pattern
FJBNVU-560	Cast-off Pattern	JAYJF-560	Cast-off Pattern
FQB9XP-560	Cast-off Pattern	JTVYVY-560	Cast-off Pattern
FXE7RM-560	Cast-off Pattern	K7D78Q-560	Cast-off Pattern
G2CVMZ-561	Cessation Cast-Off Pattern	K88WD6-560	Drip Stain
G2U4CV-560	Cast-off Pattern	KFFNHT-560	Drip Pattern
G3LXBK-561	Cast-off Pattern	KKVYWW-561	Drip Pattern
G3MUHA-561	Cast-off Pattern	KPQP4U-560	Drip Pattern
GK8EPE-560	Drip Stain	L9C27J-561	Cast-off Pattern
GN66KT-561	Cast-off Pattern	LB33AL-560	Cast-off Pattern
GQE6RK-560	Cast-off Pattern	LJDA7P-560	Cast-off Pattern
GWF4GP-561	Cast-off Pattern	LJTTQM-560	Cast-off Pattern
H27ZGZ-561	Cast-off Pattern	LNNMNN-560	Cast-off Pattern
H64JER-560	Cast-off Pattern	LP238G-560	Cast-off Pattern



TABLE 2: Mechanism of Deposition

**Item 3, continued**

<b>WebCode-Test</b>	<b>Pattern Type</b>	<b>WebCode-Test</b>	<b>Pattern Type</b>
LQXHKE-560	Cast-off Pattern	QARWXT-560	Cast-off Pattern
LVM2FG-560	Cast-off Pattern	QB3WUM-560	Drip Pattern
LXFXZ6-561	Cast-off Pattern	QDDJQF-561	Cast-off Pattern
LZGY3M-561	Cast-off Pattern	QKQRRH-560	Cast-off Pattern
M2T3AJ-560	Cast-off Pattern	QP9RDP-560	Drip Stain
M398XA-560	Cast-off Pattern	QQ49QL-560	Cast-off Pattern
MBZQCH-560	Cast-off Pattern	QUH7X9-560	Cast-off Pattern
MEY29H-560	Cast-off Pattern	QWR73F-560	Cast-off Pattern
MJA69R-561	Drip Stain	R7PFWH-560	Cast-off Pattern
MLFM7N-560	Cast-off Pattern	RB37CC-561	Cast-off Pattern
MQU6LJ-561	Cast-off Pattern	RFBGED-560	Drip Stain
MRLHQN-560	Drip Stain	RFCACL-561	Drip Pattern
N28UQ8-561	Cast-off Pattern	RG8YFE-561	Cast-off Pattern
NECZUE-561	Cast-off Pattern	RGEVC9-561	Cast-off Pattern
NM7AXH-560	Cast-off Pattern	RR7Q2M-561	Drip Stain
NRLKBL-560	Cast-off Pattern	RUANAU-560	Cast-off Pattern
NYL3QX-560	Cast-off Pattern	RVPK3U-560	Cast-off Pattern
P6HGP6-561	Drip Stain	RWK9GJ-561	Cast-off Pattern
P6LZET-560	Cast-off Pattern	RX2BF6-560	Drip Pattern
PFJCM-560	Cast-off Pattern	T3HGZG-560	Cast-off Pattern
PPPLEY-560	Drip Stain	T3R6QB-560	Cast-off Pattern
Q464NE-560	Cast-off Pattern	T8XXK7-561	Cast-off Pattern
Q9WB62-561	Cast-off Pattern	TBXAG7-560	Cast-off Pattern

TABLE 2: Mechanism of Deposition

**Item 3, continued**

<b>WebCode-Test</b>	<b>Pattern Type</b>	<b>WebCode-Test</b>	<b>Pattern Type</b>
TJQ7HM-561	Drip Pattern	WLQQJ6-560	Cast-off Pattern
TR7ZJB-560	Cast-off Pattern	WTAUQ8-561	Drip Stain
U3G28F-560	Cast-off Pattern	WUJTXA-560	Cast-off Pattern
U8BV6G-560	Cast-off Pattern	WUKLVG-561	Drip Pattern
UEU7EC-560	Cast-off Pattern	WVEC2V-561	Cast-off Pattern
UEYAG4-560	Cast-off Pattern	WXJ6T9-560	Cast-off Pattern
UGX2XE-561	Cast-off Pattern	WXKWRG-560	Drip Pattern
UKHPWU-560	Drip Pattern	WYEMVB-560	Cast-off Pattern
UR4MKG-560	Cast-off Pattern	X3Q232-561	Cast-off Pattern
UWET39-560	Cast-off Pattern	X6VJDQ-561	Cast-off Pattern
V2YF7D-560	Cast-off Pattern	X8Z44B-560	Cast-off Pattern
V32T68-560	Cast-off Pattern	XCBGKA-560	Cast-off Pattern
VAHD4D-561	Drip Stain	XD7ZMB-560	Cast-off Pattern
VAXUX7-561	Cast-off Pattern	XLHWPW-561	Cast-off Pattern
VBC4AR-560	Drip Stain	XMGYJ8-560	Cast-off Pattern
VCHRKB-560	Cast-off Pattern	XPH8LW-561	Cast-off Pattern
VVDFV7-561	Cast-off Pattern	XRNRBH-560	Cast-off Pattern
VWYTGy-561	Cast-off Pattern	XY8VHK-560	Cast-off Pattern
VYWE7F-560	Drip Stain	XZ3EKL-561	Cast-off Pattern
W2FNXT-560	Drip Stain	Y4GL9X-560	Cast-off Pattern
W3ERQ4-560	Cast-off Pattern	YR8VK4-561	Cast-off Pattern
WAHNK2-560	Cast-off Pattern	YUUKQ3-560	Cast-off Pattern
WLMUMM-561	Cast-off Pattern	YWY32Q-560	Cast-off Pattern

TABLE 2: Mechanism of Deposition

**Item 3, continued**

<b>WebCode-Test</b>	<b>Pattern Type</b>	<b>WebCode-Test</b>	<b>Pattern Type</b>
YXA6PB-560	Cast-off Pattern, Drip Stain		
Z4E29B-560	Cast-off Pattern		
ZF9GXC-561	Cast-off Pattern		
ZGFW6H-561	Cast-off Pattern, Drip Pattern		
ZHAM9B-560	Cast-off Pattern		
ZHHH66-560	Cast-off Pattern		
ZPDNDC-560	Drip Pattern		
ZQ8EJQ-561	Cast-off Pattern		
ZTY3P2-561	Cast-off Pattern		

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**Pattern Types reported for Item 3  
(Total Participants Responding = 239)**

<u>Pattern Type</u>	<u>Percent Reported</u>
Cast-off Pattern	185 (77.4%)
Drip Stain	25 (10.5%)
Drip Pattern	22 (9.2%)
Cessation Cast-Off Pattern	5 (2.1%)
Cast-off Pattern, Drip Pattern	1 (0.4%)
Cast-off Pattern, Drip Stain	1 (0.4%)

TABLE 2: Mechanism of Deposition

**Item 4**

<b>WebCode-Test</b>	<b>Pattern Type</b>	<b>WebCode-Test</b>	<b>Pattern Type</b>
224JP7-561	Transfer Stain	4H2KDN-561	Transfer Stain
296VL3-561	Transfer Stain	4HG4XK-560	Transfer Stain
2DV6UF-561	Transfer Stain	4JF7RV-560	Transfer Stain
2K3LD2-561	Transfer Stain	4LFEUK-560	Transfer Stain
2KELAW-561	Transfer Stain	4P92YV-561	Transfer Stain
2KWNR6-561	Transfer Stain	6CXX4Y-561	Transfer Stain
2RXZPM-560	Transfer Stain	6FCLMW-560	Transfer Stain
2UPMWW-561	Transfer Stain	6KLNN7-560	Transfer Stain
2VZPGV-560	Transfer Stain	6TWAAF-560	Transfer Stain
2YYZDV-560	Transfer Stain	6WVL8Z-561	Transfer Stain
36ZLRC-560	Transfer Stain	727YMD-560	Transfer Stain
3ARV3B-561	Transfer Stain	7CPFFK-561	Transfer Stain
3GBY8R-560	Transfer Stain	7DKYHL-561	Transfer Stain
3LT8JX-560	Transfer Stain	7PWAXP-560	Transfer Stain
3QJT46-560	Transfer Stain	7QTTYQ-560	Transfer Stain
3UH6Z6-561	Transfer Stain	7R6P6V-561	Transfer Stain
3VDM27-560	Transfer Stain	7VKZHY-560	Transfer Stain
3XEV7G-561	Transfer Stain	8AUC34-561	Transfer Stain
44NAP2-560	Transfer Stain	8C7ZNP-560	Transfer Stain
49VYQL-560	Transfer Stain	8G2ULQ-561	Transfer Stain
4DBA4P-560	Transfer Stain	8GGYWA-560	Transfer Stain
4DLED8-560	Transfer Stain	8KVHC6-560	Transfer Stain
4G72CL-561	Transfer Stain	8LBWLZ-560	Transfer Stain

TABLE 2: Mechanism of Deposition

**Item 4, continued**

<b>WebCode-Test</b>	<b>Pattern Type</b>	<b>WebCode-Test</b>	<b>Pattern Type</b>
8VDGM8-560	Transfer Stain	AWNQZQ-561	Transfer Stain
8W9WY6-561	Transfer Stain	AYMD6E-560	Transfer Stain
98P4BY-561	Transfer Stain	BCATWK-560	Transfer Stain
9D97FF-561	Transfer Stain	BEEB7A-561	Transfer Stain
9EK7EV-560	Transfer Stain	BHEM3A-560	Transfer Stain
9H7VU2-560	Transfer Stain	BJ967V-561	Transfer Stain
9HRERL-560	Transfer Stain	BJDM6U-560	Transfer Stain
9NU9ZW-560	Transfer Stain	BKL2AF-561	Transfer Stain
9P6ALV-561	Transfer Stain	BXTMYZ-560	Transfer Stain
9PQQ3X-561	Transfer Stain	C69T9C-561	Transfer Stain
9T6LHV-561	Transfer Stain	C7GJ3A-560	Transfer Stain
9VT3R3-560	Transfer Stain	CAH7QA-560	Transfer Stain
9W6MTP-560	Transfer Stain	CJ66GF-561	Transfer Stain
A3BJCP-560	Transfer Stain	CJN2XL-560	Transfer Stain
A9GD7L-560	Transfer Stain	CQ223X-560	Transfer Stain
AEL3LK-560	Transfer Stain	CQPZMQ-561	Transfer Stain
AEYRLC-560	Transfer Stain	CQRXTF-561	Transfer Stain
AG8VKU-560	Transfer Stain	CVXQMB-561	Transfer Stain
AMCNPX-560	Transfer Stain	D4VQMP-561	Transfer Stain
AMDGM6-560	Transfer Stain	D96WD4-560	Transfer Stain
AN98GQ-560	Transfer Stain	DGY276-561	Transfer Stain
AVLD3W-561	Transfer Stain	DKXD6P-560	Transfer Stain
AVTBNT-560	Transfer Stain	E3RDPU-560	Transfer Stain

TABLE 2: Mechanism of Deposition

**Item 4, continued**

<b>WebCode-Test</b>	<b>Pattern Type</b>	<b>WebCode-Test</b>	<b>Pattern Type</b>
E4PNKX-560	Transfer Stain	H6AMGJ-560	Transfer Stain
E7CKTN-560	Transfer Stain	H7FE2J-561	Transfer Stain
EB7EQP-560	Transfer Stain	H94VBR-560	Transfer Stain
EE7G2K-561	Transfer Stain	HJQHWF-560	Transfer Stain
EP9QLN-561	Transfer Stain	HMP624-560	Transfer Stain
EYCZQT-560	Transfer Stain	HRJYY6-561	Transfer Stain
F4JQUY-560	Transfer Stain	HXRETM-560	Transfer Stain
FA8EN4-561	Transfer Stain	HZUC4F-561	Transfer Stain
FAPKNU-560	Transfer Stain	J2LGA8-561	Transfer Stain
FE434Q-560	Transfer Stain	J9NT76-560	Transfer Stain
FJBNVU-560	Transfer Stain	JAYJF-560	Transfer Stain
FQB9XP-560	Transfer Stain	JTVVY-560	Transfer Stain
FXE7RM-560	Transfer Stain	K7D78Q-560	Transfer Stain
G2CVMZ-561	Transfer Stain	K88WD6-560	Transfer Stain
G2U4CV-560	Transfer Stain	KFFNHT-560	Transfer Stain
G3LXBK-561	Transfer Stain	KKVYWW-561	Transfer Stain
G3MUHA-561	Transfer Stain	KPQP4U-560	Transfer Stain
GK8EPE-560	Transfer Stain	L9C27J-561	Transfer Stain
GN66KT-561	Transfer Stain	LB33AL-560	Transfer Stain
GQE6RK-560	Transfer Stain	LJDA7P-560	Transfer Stain
GWF4GP-561	Transfer Stain	LJTTQM-560	Transfer Stain
H27ZGZ-561	Transfer Stain	LNNMNN-560	Transfer Stain
H64JER-560	Transfer Stain	LP238G-560	Transfer Stain

TABLE 2: Mechanism of Deposition

**Item 4, continued**

<b>WebCode-Test</b>	<b>Pattern Type</b>	<b>WebCode-Test</b>	<b>Pattern Type</b>
LQXHKE-560	Transfer Stain	QARWXT-560	Transfer Stain
LVM2FG-560	Transfer Stain	QB3WUM-560	Transfer Stain
LXFZ6-561	Transfer Stain	QDDJQF-561	Transfer Stain
LZGY3M-561	Transfer Stain	QKQRRH-560	Transfer Stain
M2T3AJ-560	Transfer Stain	QP9RDP-560	Transfer Stain
M398XA-560	Transfer Stain	QQ49QL-560	Transfer Stain
MBZQCH-560	Transfer Stain	QUH7X9-560	Transfer Stain
MEY29H-560	Transfer Stain	QWR73F-560	Transfer Stain
MJA69R-561	Transfer Stain	R7PFWH-560	Transfer Stain
MLFM7N-560	Transfer Stain	RB37CC-561	Transfer Stain
MQU6LJ-561	Transfer Stain	RFBGED-560	Transfer Stain
MRLHQN-560	Transfer Stain	RFCACL-561	Transfer Stain
N28UQ8-561	Transfer Stain	RG8YFE-561	Transfer Stain
NECZUE-561	Transfer Stain	RGEVC9-561	Transfer Stain
NM7AXH-560	Transfer Stain	RR7Q2M-561	Transfer Stain
NRLKBL-560	Transfer Stain	RUANAU-560	Transfer Stain
NYL3QX-560	Transfer Stain	RVPK3U-560	Transfer Stain
P6HGP6-561	Transfer Stain	RWK9GJ-561	Transfer Stain
P6LZET-560	Transfer Stain	RX2BF6-560	Transfer Stain
PFJCM-560	Transfer Stain	T3HGZG-560	Transfer Stain
PPPLEY-560	Transfer Stain	T3R6QB-560	Transfer Stain
Q464NE-560	Transfer Stain	T8XXK7-561	Transfer Stain
Q9WB62-561	Transfer Stain	TBXAG7-560	Transfer Stain

TABLE 2: Mechanism of Deposition

**Item 4, continued**

<b>WebCode-Test</b>	<b>Pattern Type</b>	<b>WebCode-Test</b>	<b>Pattern Type</b>
TJQ7HM-561	Transfer Stain	WLQQJ6-560	Transfer Stain
TR7ZJB-560	Transfer Stain	WTAUQ8-561	Transfer Stain
U3G28F-560	Transfer Stain	WUJTXA-560	Transfer Stain
U8BV6G-560	Transfer Stain	WUKLVG-561	Transfer Stain
UEU7EC-560	Transfer Stain	WVEC2V-561	Transfer Stain
UEYAG4-560	Transfer Stain	WXJ6T9-560	Transfer Stain
UGX2XE-561	Transfer Stain	WXKWRG-560	Transfer Stain
UKHPWU-560	Transfer Stain	WYEMVB-560	Transfer Stain
UR4MKG-560	Transfer Stain	X3Q232-561	Transfer Stain
UWET39-560	Transfer Stain	X6VJDQ-561	Transfer Stain
V2YF7D-560	Transfer Stain	X8Z44B-560	Transfer Stain
V32T68-560	Transfer Stain	XCBGKA-560	Transfer Stain
VAHD4D-561	Transfer Stain	XD7ZMB-560	Transfer Stain
VAXUX7-561	Transfer Stain	XLHWPW-561	Transfer Stain
VBC4AR-560	Transfer Stain	XMGYJ8-560	Transfer Stain
VCHRKB-560	Transfer Stain	XPH8LW-561	Transfer Stain
VVDFV7-561	Transfer Stain	XRNRBH-560	Transfer Stain
VWYTGy-561	Transfer Stain	XY8VHK-560	Transfer Stain
VYWE7F-560	Transfer Stain	XZ3EKL-561	Transfer Stain
W2FNXT-560	Transfer Stain	Y4GL9X-560	Transfer Stain
W3ERQ4-560	Transfer Stain	YR8VK4-561	Transfer Stain
WAHNK2-560	Transfer Stain	YUUKQ3-560	Transfer Stain
WLMUMM-561	Transfer Stain	YWY32Q-560	Transfer Stain



TABLE 2: Mechanism of Deposition

**Item 4, continued**

<b>WebCode-Test</b>	<b>Pattern Type</b>	<b>WebCode-Test</b>	<b>Pattern Type</b>
YXA6PB-560	Transfer Stain		
Z4E29B-560	Transfer Stain		
ZF9GXC-561	Transfer Stain		
ZGFW6H-561	Transfer Stain, Wipe Pattern		
ZHAM9B-560	Transfer Stain		
ZHHH66-560	Transfer Stain		
ZPDNDC-560	Transfer Stain		
ZQ8EJQ-561	Transfer Stain		
ZTY3P2-561	Transfer Stain		

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**Pattern Types reported for Item 4  
(Total Participants Responding = 239)**

<u>Pattern Type</u>	<u>Percent Reported</u>
Transfer Stain	238 (99.6%)
Transfer Stain, Wipe Pattern	1 (0.4%)

## Pattern Description - Part 2

TABLE 3: Recognition and Description  
**Item 5**

WebCode-Test	Detailed Pattern Description
224JP7-561	Blood stains visible indicate that the initial spatter is moving from left to right, top left towards bottom right. A reverse motion appears indicated by the blood spatter details. The vertical surface appears to have been moved at some point to cause flowing blood to change direction from the largest stains and move in a different angle. A wipe pattern appears through the downward flow and some of the existing angle stains. Blood flow continued after the wipe. The wipe appears to move from left to right.
296VL3-561	There is a projected pattern in the center of the image with several of the drops having directionality from the upper left to the lower right. Additionally, some of the accompanying drops from the large drops in this pattern have flow going downward in the image. There is a wipe pattern in the approximate center of the image going from left to right. Based on the size, shape and apparent transfer pattern (friction ridge detail) the wipe appears to be from fingers. There is an apparent void in the overall pattern in the lower center of the image. There is a very linear aspect to two areas of staining in what should be a continuous stain.
2DV6UF-561	Splash pattern - a bloodstain pattern resulting from a volume of liquid blood that falls or spills onto a surface. Flow pattern - a bloodstain pattern resulting from a movement of a volume of blood on a surface due to gravity or movement of the target. Wipe pattern - an altered bloodstain pattern resulting from an object moving through a preexisting wet bloodstain.
2K3LD2-561	1. Three larger projected stains travelling in a downward right direction, accompanied by numerous smaller projected stains. 2. Three horizontal & parallel wipe stains moving from left to right, using blood from flow pattern of larger projected stain. 3. Possible void under wipe pattern, in a horizontal plane and measuring 10 mm wide. 4. Rivulet over wipe marks. 5. Larger projected stain under wipe.
2KELAW-561	In image 5 I observed a projected bloodstain with the following additional patterns/observations: 1. Directionality downward, from left to right. 2. Flow pattern. 3. Altered stain with perimeter staining. 4. Wipe pattern. 5. Void.
2KWNR6-561	projected pattern on the top left side of the target surface, with flow due to gravity. the projected pattern is from top to bottom and from left to right. Void under the projected pattern, probably due to an object that was there while creating the pattern. Wipe pattern on the flow, from left to right, made probably by 3 fingers.
2RXZPM-560	A projected blood stain pattern can be observed starting in the upper left corner of the target area and traveling at a downward angle towards the bottom right corner of the target area. A flow pattern can be observed coming from the projected pattern, traveling down the target area due to gravity. An altered stain is then formed from the flow pattern by three horizontal wipe patterns that travel through the existing blood. Edge characteristics can be seen in the downward flow pattern where the horizontal wipes altered the stain.
2UPMVW-561	Projected Blood Pattern, Flow Pattern, Satellite Stains, Wipe Pattern, Altered Stain. Overall pattern has a downward direction going from left to right on the target surface.
2VZPGV-560	Photograph of red-brown stains. The following observations were noted: Red-brown stains consistent with flow patterns. Additional elliptical red-brown stains with directionality towards the bottom-right of the photograph. Red-brown stains consistent with perimeter stains. Red-brown stains consistent with a wipe pattern composed of three linear/horizontal shapes. Void in red-brown stains in lower center area of photograph.
2YYZDV-560	Red-brown stains, consistent with a projected pattern, with irregular shape and flow were noted. The following measurements were taken: stain in upper left ~80mm x 26mm, stain in upper middle ~44mm x 19mm, stain in lower right ~48mm x 16mm. A wipe pattern consisting of three linear

TABLE 3: Recognition and Description

**Item 5, continued**

WebCode-Test	Detailed Pattern Description
	<p>stains was noted through some of the stains. The three linear stains measured ~8mm x 91mm, ~11mm x 78mm, and ~11mm x 82mm. The perimeter of the original stains were noted. A possible void was noted in the lower portion of the stain. Additional red-brown stains were noted.</p>
36ZLRC-560	<p>1. Splash Pattern - Resulting from a volume of liquid blood that falls onto the vertical plane. 2. Flow Pattern - Resulting from movement of a volume of blood due to gravity. 3. Wipe Pattern - Resulting from object moving through a pre existing wet bloodstain. (Flow). 4. Void - absence of blood in an otherwise continuous bloodstain pattern. (Flow Pattern).</p>
3ARV3B-561	<p>Present on the white foam board is a complex pattern consisting of a projected pattern with satellite stains, a wipe pattern, a flow pattern, and a void. 1. The overall pattern is approximately 13cm x 15cm. 2. The projected pattern consists of three (3) large blood stains with satellite stains visible around it. 3. Two (2) of the three (3) blood stains mentioned in paragraph 2, are located in the upper left corner and are 4.5 cm x 7cm in size. 4. A flow pattern that is the result of the movement of blood from the pattern mentioned in paragraph 3, is visible towards the bottom of the foam board. It is approximately 3cm long. 5. The third blood stain of the projected pattern mentioned in paragraph 3, is lower down to the right of the flow pattern mentioned in paragraph 4 and is approximately 6cm long. 6. A 1cm void is present in the lower section of the blood stain mentioned in paragraph 5. 7. A wipe pattern consisting of three (3) horizontal lines from left to right, was created when an object moved through the pre-existing flow pattern mentioned in paragraph 4. It is 7cm x 3cm. 8. The projected pattern mentioned in paragraph 2 preceded the wipe pattern mentioned in paragraph 7.</p>
3GBY8R-560	<p>There is a projected pattern on the upper portion of the target. There is a flow pattern present that shows a downward movement of blood due to gravity. There are three distinct wipe patterns that appear to move through the flow pattern from left to right. The three wipe patterns are parallel to each other. There is a void in the pattern that interrupts the projected pattern and flow pattern. The void is approximately 10mm in height and is located on the bottom third of the target.</p>
3LT8JX-560	<p>The following description is given whilst orientating the image with the long side of the ruler down the left hand edge and the short side of the ruler along the top. It has been interpreted that the instructions of the CTS "the test is not a reconstruction of a scenario" do not require sequencing of any individual patterns present. There appears to be three distinct blood related events: 1. A series of spatter stains deposited on the target. There is cluster of larger volumous stains in the top left corner of the target (possibly four total). These stains have a generally oval shape with some irregular margins and demonstrate a similar direction of travel prior to deposition. This direction is from top left of target surface towards bottom right at an approximate downward angle of 45 degrees. The volume of blood in the larger stains has allowed rivulets to form and run downward due to the effects of gravity. One of these rivulets extends approximately 8cm's down the left centre of the target and has been affected by other blood stain events. Associated with the larger volumous spatter stains are a number of smaller spatter stains. Positioned closely with the larger volumous stains are smaller spatter stains (approx. 3-5mm's in length &amp; 1-2mm's width). These smaller spatter stains demonstrate generally similar direction of travel to the larger volumous stains, indicating they are related to the same spatter forming event. Located further from the cluster are a number of spatter stains with high length to width ratio, demonstrating similar direction of travel. This would support these stains being a result of satellite spatter from the impact of the volumous stains on the target. There is a further volumous spatter stain towards the bottom right of the target that has been affected by other blood stain events. This volumous stain demonstrates similar direction of travel to the others. 2. A wipe pattern. The 8cm rivulet extending down the left centre of the target has been affected by the lateral movement of three objects through the rivulet before it has dried. The movement is from left to right (approximately horizontal) and up to approximately 9 cm's in length. There are visible horizontal striations through each of the three wipe marks. The two lower wipe marks also transverse the larger volumous spatter stain in the lower right corner of the target. Plausible explanations for the appearance of the three wipe marks would include the movement of three fingers from left to right across the target, running through the wet rivulet. 3. A</p>

TABLE 3: Recognition and Description

## Item 5, continued

WebCode-Test	Detailed Pattern Description
	void pattern. At the bottom of the blood stain patterns present on the target is an area absent of blood that would otherwise be expected to contain blood staining. The rivulet running down the left centre appears to terminate at a distinct demarcation (approximately 20.3 cm mark on left edge ruler) that coincides with square edged demarcations at the bottom of the volumous spatter stain in the lower right corner and a further apparent rivulet. The edges of each bloodstain terminating at the approximate 20.3 cm point also show an accumulation (or concentration) of blood at this demarcation line, supporting the presence of a straight edged object in contact laterally across the target.
3QJT46-560	There are two projected patterns in the upper left corner of the target. From the projected patterns, flow patterns can be seen moving toward the bottom of the target. Three wipe patterns can be seen moving from left to right from the flow pattern on the left of the target. The three wipe patterns left three perimeter stains in the flow pattern on the left side of the target. There is also a void pattern at the bottom of the target.
3UH6Z6-561	There are three projected parent stains with accompanying satellite stains. They indicate directionality from upper left to the lower right with accompanying gravitation flow downward. One area of gravitational flow has three, likely simultaneous, wipe patterns with left to right movement, possibly caused by fingers.
3VDM27-560	1. A volume of blood is ejected from body to foamboard from top, from left corner in 45 degree. 2. Part of ejected blood flow of a surface due to gravity. 3. Object (probably 3 fingers) moving through a flowing blood from left to right, parallel to the floor resulting wipe pattern.
3XEV7G-561	In my opinion: Two large volume stains to upper left of plane projected downward towards the right. Further large volume stain below with void. Upper large volume stains have run downward under gravity. The left-hand run has been wiped left to right, with the wiped blood horizontal to the runs. Run on right-hand side has continued to run over wipe stains.
44NAP2-560	1. Represents a Flow Pattern measuring approximately 10.5mm by 15.0mm Stain also indicates a Projected Pattern that resulted in the flow pattern 2. Represents a Wipe Pattern measuring approximately 4.5mm by 9.0mm. Wipe Pattern resulted from motion or disruption in the Flow Pattern 3. Bloodstains measuring approximately 0.5mm with Directionality
49VYQL-560	A projected blood pattern with associated satellite stains, descending into a downward flow pattern, initially at an angle and then vertically. Three horizontal swipe patterns through the downward flow pattern, with a void visible at the lower edge of the flow pattern. Slight pooling of blood at lower edge.
4DBA4P-560	A bloodstain consisting of a projected pattern, flow pattern, wipe pattern and perimeter stains. Possible void. Possible expiration pattern (accompanied by bubble rings and non-linear string-like stains).
4DLED8-560	Four primary stains that impacted the surface were observed. All four stains depict directionality downward from the ten o'clock position towards the four o'clock position and resulted in a projected pattern. Satellite stains consistent with the four primary stains were also observed. Flow patterns were observed originating from two primary impact stains. A wipe pattern was observed traveling from left to right and affecting both flow patterns and the lowest impact stain. A void was observed directly below the lowest impact stain.
4G72CL-561	(1) A void pattern is present centered in the image, approximately 11 centimeters from the bottom of the image. (2) A projected pattern is located in the upper left corner and middle of the image. The directionality of this pattern indicates travel from the upper left to the lower right. (3) A flow pattern initiates from some areas of projected pattern with a possible original directionality of flow from the upper left to the lower right of the image. The directionality of the flow then changes to be more vertical and flow straight from top to bottom. (4) A wipe pattern is centered at the top of the lower half of the image. The directionality of this pattern appears to be horizontal from left to right,

TABLE 3: Recognition and Description

**Item 5, continued**

WebCode-Test	Detailed Pattern Description
	and may have been caused by fingers.
4H2KDN-561	There is a projected pattern that comes from the left upper area on the imagen. On the lower area it is seen a wipe pattern likely the fingers moving form left to right. Fially under the wipe pattern seems to be a void.
4HG4XK-560	Three projected patterns with satellite stains originating from the projected patterns. Flow patterns then developed from the projected patterns aided by gravity. The flow patterns from the two left projected patterns continued down onto another surface/object. The other surface /object was then removed creating a void in the pattern. A wipe pattern in a left to right motion was then created through the two left flow patterns and the right projected pattern.
4JF7RV-560	Projected patterns are present in the upper left quadrant and center of the target, and associated satellite stains with directionality down and to the right are also present. Flow patterns with directionality down and to the right then straight down are present in the center of the target. A void is present at the base of the flow patterns and the projected pattern in the center of the target, with some additional staining below the area of the void. Wipe patterns are present in the flow patterns, satellite stains, and the projected pattern in the center of the target, causing perimeter stains in some areas of the flow patterns and satellite stains where they were altered by the wipe patterns.
4LFEUK-560	This R/O observed a projected pattern of suspected blood at the top left area of the vertical plane. This R/O observed a flow pattern traveling downwards from the origin. This R/O observed a wipe pattern through the center of the flow pattern. A void was observed at the bottom of the flow pattern.
4P92YV-561	A projected pattern (a bloodstain pattern resulting from the ejection of a volume of blood under pressure) was located near the upper left area of the photograph. A vertical flow pattern (a bloodstain pattern resulting from the movement of a volume of blood on a surface due to gravity or movement of the target) was also present in the bloodstain pattern. A wipe pattern (an altered bloodstain pattern resulting from an object moving through a preexisting wet bloodstain) disrupted the flow pattern. This wipe pattern appeared to consist of three objects. A void (an absence of blood in an otherwise continuous bloodstain or bloodstain pattern) was located below the wipe pattern and interrupted a portion of the bloodstain pattern.
6CXX4Y-561	Pattern 1 was located on the upper left corner and center of the image. It consisted of three large stains, with associated satellite stains, all with an up to down and left to right directionality. All three stains exhibited volume due to size and associated downward flow. Pattern 1 was determined to be projected stains with flow. Pattern 2 was located near the center of the image. It consisted of three approximately parallel lines originating on the far left flow from Pattern 1. Movement was indicated from left to right due to the lack of staining visible to the left of the flow, and the skeletonized outline of the flow. The lack of staining to the left of the flow also rules this pattern out as being a swipe. The visible skeletonization of Pattern 1 indicates that Pattern 1 occurred before Pattern 2. Pattern 2 was determined to be a wipe.
6FCLMW-560	The pattern consists of several large bloodstains consistent with impacting the surface in a downward, left to right direction. The appearance of these stains are consistent with a projected pattern. A flow pattern is evident on the surface emanating from the larger stains. At the base of the overall pattern is a small void which is consistent with something having been on the surface interrupting the pattern and which has subsequently been removed. There are also three wipe marks across the lower portion of the pattern moving in a left to right direction. These have been made after the projected and flow pattern and possibly by fingers.
6KLNN7-560	PROJECTED PATTERN - A bloodstain pattern resulting from the ejection of a volume of blood under pressure. WIPE PATTERN - An altered bloodstain pattern resulting from an object moving through a pre-existing wet bloodstain.

TABLE 3: Recognition and Description

**Item 5, continued**

WebCode-Test	Detailed Pattern Description
6TWAAF-560	A projected pattern of blood, as the result of volumes of blood being ejected under pressure, with associated satellite stains. Two flow patterns from the parent stains running down the vertical plane. One of the flow patterns has been subsequently altered having been wiped horizontally, possibly by fingers, to create three wipe patterns.
6WVL8Z-561	This red/brown stain was deposited on a vertical surface or target. There are parent stains that were deposited with a directionality originating from upper left to lower right. This deposit is somewhat linear. There was volume to the deposits, resulting in flow patterns in the direction of gravity. One flow pattern has perimeter stains. There are three wipe patterns originating with a flow pattern, then going in a left to right direction through a parent stain. There is feathering on the far right margin on one of these stains. The three wipes are parallel to each other. Satellites accompany the parent stains.
727YMD-560	Upper left corner shows a splash pattern. A volume of liquid blood falling against a target surface showing volume accumulation, irregular margins and spines around the margin. In the middle is a wipe pattern. It is an altered pattern resulting from an object moving through a preexisting wet or partially wet bloodstain. The directionality of the disturbance is from left to right indicated by feathering. Next to the first splash pattern is a second splash pattern.
7CPFFK-561	The bloodstain patterns depicted in the digital image (item 001-005) consist of the following: There are two predominant projected bloodstains located in the upper left of the image. These bloodstains are elongated and show a left to right and downward directionality. There is a projected bloodstain below and to the right of the two projected bloodstains located in the upper left. There are flow pattern bloodstains at the lower end of the two projected bloodstains located in the upper left. There are three horizontal wipe pattern bloodstains which pass through the flow pattern bloodstains with a left to right directionality.
7DKYHL-561	At the top left portion of the image is a gush pattern which exhibits both regular and irregular margins with some spines and secondary spatter. There is volume with flow, the effect of gravity, moving downward, towards the bottom of the image. Through the flow pattern, in the approximate center of the image, is a wipe pattern exhibiting lateral motion from left to right through the pre-existing stain, indicating that the wipe occurred after the flow stain had been deposited. At the bottom of the image is an apparent void with some characteristics of shape. The void is evidenced in the apparent disruption/interruption of the flow pattern. All stain patterns identified above are opinion, based on training and experience that I have received.
7PWAXP-560	In the left upper portion of the photograph are two general areas of somewhat oval heavy stains that could be multiple individual stains with a small amount of satellite spatter stains. Two large terminal ends of the oval stains extend toward the center of the photo in linear staining (possible tails of large oval spatter) and these linear stains exhibit flow stains downward and diagonally down to the right. Several elongated oval or oval stains are also present that could be spatter, some of which are directed diagonally down and to the right in the more central portions of the overall staining. However, some of the elongated oval stains on the right-most periphery of the overall spatter pattern appear to have directionality diagonally up and to the left. Both flow patterns are interrupted with three horizontal linear wipes originating from the flow patterns and moving to the right and over additional oval and irregularly shaped stains and small spatter stains. The small spatter stains in the area of the wipes are directed down and to the right, one of which underlays the central wipe creating a perimeter stain of the original oval spatter. There is a linear void near the bottom section of the photo terminating the flow stains and interrupting a continuous area of linear and irregularly shaped stains spanning diagonally to the bottom right.
7QTTYQ-560	A larger volume stain with an irregular shape and some satellite stains consistent with a projected pattern onto a vertical surface was observed. This resulted in stains with downward movement due to gravity consistent with a flow pattern. Some of the flow pattern was altered and exhibited perimeter stains consistent with a wipe pattern. Sudden cessation of the flow pattern was observed,

TABLE 3: Recognition and Description

**Item 5, continued**

WebCode-Test	Detailed Pattern Description
	creating a void.
7R6P6V-561	Projected pattern consistent with spurt, with satellite stains present. Flow patterns resulting from parent stains. At least three projected stains are present. A wipe pattern disrupts the flow pattern from the parent stains on the left of the pattern. The wipe pattern consists of three wipes in the left to right direction. The flow of blood from the projected stain second from the left continued after the wipe. The flow stains abruptly end at the base of the pattern indicating a possible void.
7VKZHY-560	Spatter staining is located at the upper left hand corner, with associated flow toward the bottom of the photograph. Three wipe patterns are located centrally, with movement toward the right of the photograph. A possible void may be located below the wipe patterns as depicted by the absence of staining and the linear demarcation across the flow and spatter patterns.
8AUC34-561	There are projected bloodstains with associated flow. The flow was wiped through from the left to the right in three areas. The bottom of the flow and stains ends abruptly, leaving a relatively straight edge. This indicates an item may have been on the target surface and then removed after the blood was deposited.
8C7ZNP-560	A projected pattern with a flow pattern was observed. A wipe pattern and a void were also observed. A volume of blood is visible on the vertical plane with spines. This can indicate that the blood was deposited under pressure or with force (projected pattern). The excess blood has collected and gravity has pulled this blood down, creating the stains traveling down the vertical plane (flow pattern). These existing stains have been altered. Movement and direction of travel is visible due to the feathering within the altered portion of the existing stain (wipe pattern). There is an abrupt halting and an absence of blood where the bloodstain should have continued (void).
8G2ULQ-561	A projected pattern (2 stains) is observed in the upper left corner of the image. Projected patterns are the result of an ejection of a volume of blood under pressure. Due to the volume of blood, a downward flow pattern was observed in the middle of the image, resulting from the heaviness of the projected blood. The flow pattern was somewhat dried before a wipe occurred (possibly 3 fingers), moving in a left to right fashion. The disruption of the flow pattern and it being partially dried is based on the visible perimeter stains observed. A second projected pattern with some spines is observed under the two lower wipes. A void pattern was noted at the bottom of the flow patterns and in between the lower projected stain and its spines.
8GGYWA-560	It is a splash pattern -> a blood stain pattern resulting from the volume of a liquid blood that falls or spills onto a surface. Then there is a wipe at the bottom of the splash. -> Wipe is an altered bloodstain pattern resulting from an object moving through a pre-existing wet bloodstain.
8KVHC6-560	Projected Pattern: The pattern is located at the top left corner of the image to the bottom right. The pattern is created through the ejection of a volume of blood under pressure and shows to have a linear orientation from left to right. Volume within the individual stains is present. Flow Pattern: The pattern is located toward the center of the image and is associated with the projected pattern. The pattern occurs as gravity causes movement to a volume of blood. This is a non-spatter stain with regular margins and volume accumulation. Spatter Stain: The pattern is seen throughout the image from the top left to the bottom right and is associated with the projected pattern. Blood is dispersed through the air due to an external force acting on liquid blood. The individual stains consist of elliptical shapes with a downward directionality from top right to bottom left. Wipe Pattern: The pattern is located toward the center of the image. The pattern is an altered bloodstain resulting from an object moving through liquid blood. The movement of the pattern is from left to right through the preexisting flow pattern. There are irregular margins through the three separate patterns with volume accumulation at the bottom edge of each pattern.
8LBWLZ-560	Item #5 contains the following Stain Patterns: Wipe - (left to right) from the 150mm mark to the 195 mm mark on the left scale. Three Transfer Stains with downward flows and downward satellite Stains.



TABLE 3: Recognition and Description

**Item 5, continued**

WebCode-Test	Detailed Pattern Description
8VDGM8-560	Splash Pattern - bloodstain pattern resulting from a volume of liquid blood that falls or spills onto a surface. Wipe pattern - An altered bloodstain pattern resulting from an object moving through a pre-existing wet bloodstain.
8W9WY6-561	1 - Projected Pattern 2 - Flow Pattern 3 - Wipe Pattern (From left to right)
98P4BY-561	1. SPLASH PATTERN: A BLOODSTAIN PATTERN RESULTING FROM A VOLUME OF LIQUID BLOOD THAT SPILLS ONTO A SURFACE. 2. SATELLITE STAIN: A SMALL BLOODSTAIN ORIGINATED DURING THE FORMATION OF THE PARENT STAIN. 3. FLOW PATTERN: A BLOODSTAIN PATTERN RESULTING FROM THE MOVEMENT OF A VOLUME OF BLOOD ON A SURFACE DUE TO GRAVITY. 4. WIPE PATTERN: A BLOODSTAIN PATTERN RESULTING FROM AN OBJECT MOVING THROUGH A PRE-EXISTING WET BLOODSTAIN. 5. VOID: AN ABSENCE OF BLOOD IN AN OTHERWISE CONTINUOUS BLOODSTAIN.
9D97FF-561	1. Projected Pattern : A volume of blood under pressure was ejected. 2. Flow Pattern : A volume of blood on a surface moves downward due to gravity. 3. Wipe Pattern : An object was moving to the through a right direction flow.
9EK7EV-560	Large and irregular red-brown spatter stains measuring approximately 13mm to 25mm wide and consisting of two altered downward flow patterns; several smaller elliptical satellite stains measuring approximately 1 mm to 3mm wide; and a wipe pattern consisting of three linear patterns.
9H7VU2-560	Projected patterns with downward flow patterns are present on the target. There is a void in the lower center of the target. Near the center of the target, there is a wipe pattern through the flow patterns and lower projected pattern.
9HRERL-560	There is a possible projected pattern (up to 3 stained areas) from the top left to the bottom right with spines within the entire pattern area. The possible projected stained pattern areas (2) in the top left also exhibit flow patterns. From the flow pattern on the far left there is a wipe pattern (3 linear wipes from left to right) that extends across the bottom possible projected pattern stained area (no comment as to order). There is also a void area within the bottom possible projected pattern stained area that extends across to the bottom of both flow patterns.
9NU9ZW-560	Item 5 consisted of a photograph of three bloodstains: (1), (2), and (3). The bloodstains are accompanied by several elliptical stains with directionality towards the bottom right. The elliptical stains measure <1 mm x ~2mm to ~3mm x ~5mm. Stains (1) and (2) have flow with perimeter stains. Stain (3) also has perimeter staining. Three wipe patterns move from left to right through the flow of stains (1) and (2), an elliptical stain adjacent to stain (3), and through bloodstain (3). An area consistent with a void is also present at the end of the flow from patterns (1) and (2) and through stain (3).
9P6ALV-561	Item 5 – Examination reveals projected overlapping bloodstains impacting the target (foamboard) in the upper left hand corner which travel left to right and diagonally downward towards the center of the target. Elongated spines continue towards the lower right hand corner of the target. Blood flow patterns are also present at the end of the projected stains which travel diagonally downward. The blood flow pattern on the left side of the target changes direction (gravity) towards the bottom center portion of the target which is disturbed (interrupted) by three successive horizontal wipe stains traveling left to right.
9PQQ3X-561	The few larger stains with some volume and accompanying spines are consistent with a projected pattern originating from above and to the left of the target surface. The apparent force involved causes these stains to tail down and to the right before gravity likely causes downward flow. A sudden change in direction is most evident on the left-most stain. On a body or other movable object, this would suggest a positional change while the blood is still wet and flowing. Also on the lower flow portions of these stains are altered / perimeter stains caused by three wipes moving from left to right. Although the perimeter stains suggest that time allowed for some drying, additional flow



TABLE 3: Recognition and Description

**Item 5, continued**

WebCode-Test	Detailed Pattern Description
	and stain concentration is also present at the top of the smears. Volume allowed the tailing stain portions to continue to flow for a short distance after the smears were made. Finally, at the bottom of the pattern, most of the stains end and concentrate abruptly along an almost linear (horizontal) border. A possible void may have been caused by a removed object.
9T6LHV-561	A projected pattern bloodstain starts in the upper left hand portion of the image and continues down and to the right. Flow patterns are present and appear to be related to the projected pattern. Three approximately parallel wipe patterns are present progressing left to right from a preexisting flow pattern and into a second flow pattern and a projected pattern. A void is present (approximate coordinate on image 205mm-220mm vertical axis and 90mm -150mm horizontal axis). The void is present in an otherwise continuous flow pattern and projected pattern.
9VT3R3-560	Elliptical shaped stains with spines and flow patterns indicating the elliptical stains are projected bloodstains. Wipe patterns were observed altering the flow patterns. Both flow patterns end abruptly and the bottom most elliptical projected stain ends and then begins again which is consistent with a void pattern.
9W6MTP-560	Item 5 shows a projected pattern from the upper left hand corner to the bottom right hand corner with a resulting flow pattern down the center. A wipe pattern, with movement from left to right, is located in the center of the image. A void pattern is located at the bottom.
A3BJCP-560	The bloodstains in this photograph are comprised of four main categories of bloodstains patterns, which are listed below as A-D. A) Starting at the upper left-hand side of the photograph there are three or more elliptical or semielliptical stains that have well defined margins and move downward and to the right on the target. A larger stain is more toward the left-hand side of the target and measures approximately 3 cm across by 10 cm downward. A smaller stain is located more to the right on the target and measures approximately 1.5 cm across by 4 cm downward on the main body of the stain. Both stains exhibit the shape, distribution, and appearance of projected patterns on a vertical surface. B) Two of the projected stains have associated flow patterns that travel downward due to gravity. The flow pattern originating from the projected stain pattern more on the left-hand side measures approximately 9.5 cm in length. The flow pattern originating from the projected stain pattern more on to the right measures approximately 7 cm in length. C) A wipe pattern is present in the center of the target that appears to have originated from the flow patterns. The wipe pattern moves towards the right-hand side of the target and appears as three horizontal lines that measure between 7 and 8 cm (approximately) in length from left to right when looking at the target. D) Individual spatter stains were also present on this target. The spatter stains exhibit a directionality that is downward and toward the right-hand side of the target and are more than likely associated with the projected bloodstain patterns.
A9GD7L-560	Two irregular bloodstains are visible in the upper left corner of the photo and a third irregular bloodstain is present near the center. These stains are oriented from upper left to lower right with long, narrow satellite spatter oriented from the stains in the upper left to the lower right of the photo. Flow patterns originate from the upper irregular bloodstains and travel toward the lower right before turning and traveling straight down the photo. These flow patterns are altered with three linear wipe patterns originating from the left most flow pattern and continuing through the right flow pattern. The irregular bloodstain in the center and the flow patterns appear to be obstructed by a void area.
AEL3LK-560	Multiple projected stain patterns are near the center of a vertical foam board target. There are flow patterns that extend downward from the projected stain patterns. A wipe pattern, from left to right, extends through the flow patterns.
AEYRLC-560	1) Series of large volume elliptical stains which show directionality (from upper left to lower right). Also associated with these are some very oblique elongated smaller stains. In my opinion all airborne. Common area of convergence in upper left corner and area of origin appears to be very close to vertical target surface. Together these stains form a projected pattern. 2) Due to volume of

TABLE 3: Recognition and Description

**Item 5, continued**

WebCode-Test	Detailed Pattern Description
	blood deposited, the blood has run down the vertical target surface forming a flow pattern. 3) The runs of blood have subsequently been altered by being wiped in a horizontal direction from left to right. This forms a wipe pattern. 4) Possible void present in lower section of stain. 5) Several bubble rings seen in the airborne bloodstains.
AG8VKU-560	There are two distinct, large volume, spatter stains (possibly projected) on the upper left of the image. They are in close proximity to each other and both have a directionality that is downwards and to the right. They both have associated flow patterns extending downwards. There appears to be a third, large volume, spatter stain (possibly projected) also exhibiting a directionality that is downward and to the right (visible on the lower right side of the image). The staining at the base of the image (flow pattern and spatter/projected) appears to have been obstructed, possibly by a straight edged object, resulting in a void. Subsequent to the deposition of the spatter/projected stains on the upper left and lower right sections of the image, there is a wipe pattern consisting of three linear marks (~1 cm width) with movement through the flow pattern from left to right, causing the alteration of the flow pattern and also of the lowest spatter/projected deposit. The transfer source of the wipe pattern is indicative of being bloodstained fingers. One of the flow patterns has continued to form over the top of the upper most section of wipe pattern (post the creation of the wipe pattern). Note: in addition to the staining described above, there are additional irregular, elongated and elliptical stains (all with downward and right directionality) present that are likely to be associated with the event(s) that led to the generation of the main spatter/projected stains.
AMCNPX-560	The upper left corner appears to have a void pattern. Below the void pattern there is a flow pattern that is moving in the downward direction from left to right. There is a wipe pattern that appears to be possibly three fingers across the center of the target. Below the wipe pattern there is a void. There is a small flow pattern below the void towards the right side of the target.
AMDGM6-560	Splash pattern with a flow pattern. Wipe pattern from the flow & a void pattern.
AN98GQ-560	Large bloodstains(all parallel and same direction), travelling diagonally downwards, have impacted the surface forming a projected pattern, with flow patterns and satellite bloodstains associated with it. There is a wipe pattern which has affected some of the lower bloodstains, due to an object or objects moving from left to right through some of the pre-existing bloodstains, giving three horizontal parallel lines and causing altered stains. There is a void near the bottom where an object has halted some flow patterns and interrupted the lowest bloodstain of the projected pattern when it landed on the surface. Some of the uppermost flow patterns have then flowed slightly over part of the wipe pattern.
AVLD3W-561	Pattern consists of 3 projected stains, including flow patterns. Through the flow patterns, wiping from left to right is visible. The lines in these wipe patterns indicate that possibly fingers are involved, although also (latex) gloves might cause these kind of characteristics. The bottom of the flow patterns seem to show a void area, because the flows 'suddenly' stop, even at the same horizontal level. Maybe some object blocked the blood from flowing further down.
AVTBNT-560	Several spatter stains with an angled, downwards directionality. Most of these stains (in excess of 10 stains) are elliptical and some of these are acute stains ranging in size from approx. 1 - 1.5mm width and 3.5mm - 57mm length. Four of these spatter stains are much larger with a greater volume of blood. Approx sizes: 2 x 5mm, 7 x 25mm, 14 x 40mm and 25 x 80mm. The two smaller stains exhibited the beginnings of a downward flow pattern, each with a large volumous leading edge. The two larger stains exhibited flow patterns with a downwards directionality due to gravity. There were three wipe patterns which extended through the two flow patterns and some of the other spatter stains, causing skeletonization of some of the smaller spatter stains,resulting in complete or partial perimeter stains. There was a possible fifth larger spatter stain with spining, however this appears to have been altered significantly due to at least two of the wipe patterns having moved through it. The wipe patterns appear to have the possible size and appearance of fingermarks,ranging in size from approx. 8-10mm width and 78-90mm length. The object/s or

TABLE 3: Recognition and Description

## Item 5, continued

WebCode-Test	Detailed Pattern Description
	surface/s which caused the wipe patterns moved from left to right through the pre-existing stains on the surface.
AWNQZQ-561	A projected bloodstain originating from the upper left of the target and traveling towards the lower right. Portions of the projected bloodstain pattern continued to travel downward, resulting in a flow pattern below some of the projected pattern stains. Three unidentified elements were dragged horizontally through portions of the flow and projected patterns, resulting in three horizontal left to right wipe pattern lines. A possible void, created by a horizontal or possibly rectangular element, exists near the lower edge of the overall pattern.
AYMD6E-560	Top left of target shows projected pattern with associated flow patters to the right and down. A left to right wipe pattern is present through the flow pattern. (Possibly created with gloved fingers.) There is also a void at the bottom of the pattern area. Projected stain created first, followed by flow pattern with a subsequent wipe.
BCATWK-560	Two projected stains were present in the top left corner of the target, each having a downward flow pattern. The 1st stain's (farthest left) flow pattern changes direction and that flow pattern has been wiped through prior to drying (wiped from left to right). The 2nd stain's (farthest right) flow pattern happened after the wipe due to the flow pattern being on top of the wipe pattern. The flow pattern of this stain was not changed (direction was not changed.)
BEEB7A-561	From top left of image - stains associated with a Projected pattern. Part of the stain is the typical run off pattern associated flow. Distinctive termination points visible. The two top larger volume stains associated flow patterns downwards are disturbed with wipe pattern horizontally from left to right. Wipe pattern also disturb another stain. Edge characteristics of some stains to bottom right - just below bottom of third horizontal wipe pattern indicated void - linear pattern with distinctive linear termination edge. Pattern disturbed. Direction of pattern from left to right.
BHEM3A-560	Item 5 has two patters created at different times. 1. At the top there is splash pattern created when large volume of liquid blood spills/impact on the surface under minimal or no force (except gravity), this is seen by individual spines and spatters. 2. Below splash pattern there is a wipe pattern that is created by alteration of the splash pattern by an object (s) moving through a pre-existing wet stain indicating direction of movement from left to right of the picture.
BJ967V-561	Possible projected pattern in the upper left of the image that is angled downward and toward the right. There is, what is believed to be, a wipe pattern with three linear lines that appear to have been created by possible fingers being wiped from left to right over the blood flow pattern that occurred from the previously described projected pattern. There is a possible void area in one of the projected stains and flow pattern just below the lowest linear stain.
BJDM6U-560	The parent stain on the top left is consistent with a projected pattern. Flow patterns are coming off of the projected pattern, the flow pattern appears to change direction. A wipe pattern is moving through two of the flow patterns. In two areas the flow pattern is moving over the wipe pattern. There is a void present in the red-brown stain on the bottom right.
BKL2AF-561	Upper left portion of the target are two (2) projected stains with satellite stains moving down and to the right, as well as flows below and to the right of both stains. There is a third projected stain below and to the right of the above mentioned stains. The bottom edges of the flows and 3rd mentioned projected stain, there appears to be linear edges perpendicular to the stains indicating a void. There are three linear wipes that appear to move from left (starting in the left-most flow) and moving right.
BXTMYZ-560	Obj A - Projected stain - Top left 3 bloodstains 2 upper left & 1 center, in 10 to 4 o'clock direction ~9" x 3" flow pattern from upper stains ~3" (left) & 1.75" (right) both show perimeter stain result of obj B. Obj B - Wipe 3 pronged 9 to 3 o'clock ~3.5" x 1.75". Obj C - void ~4.75" from bottom edge disrupts flow pattern & lower bloodstain.

TABLE 3: Recognition and Description

**Item 5, continued**

WebCode-Test	Detailed Pattern Description
C69T9C-561	This item consists of two drops that were travelling diagonally from the top left to the bottom right (when facing the photograph) with flow patterns downward to the bottom of the photograph. There are perimeter stains through the flow patterns with a wipe pattern that appears to be three fingers moving from the left to right.
C7GJ3A-560	In my opinion the image shows a number of large volume projected bloodstains with associated satellite stains and runs of blood. The projected blood was travelling left to right towards the floor with a directional angle of approximately 45 degrees. Runs of blood are present from the larger projected stains and these have run straight down the wall at an angle from the main stains. The runs of blood and one of the projected bloodstains have been wiped though in a left to right direction before they were completely dry. There are three parallel wipe marks possibly indicative of having been made by fingers. There is an apparent void below the wipe marks: Blood appears to have settled just above the void and one run of blood shows a clear gap of approximately 9mm. Possibly there was an item against the surface when the blood was deposited and for a time afterwards such that blood was not deposited in this area and blood pooled at this point.
CAH7QA-560	Item 5 was examined and a cast off pattern with associated satellite stains was noted. Some of the cast off pattern formed flow patterns. Horizontal wipe patterns were present originating from a vertical flow pattern. A void was noted to the lower of this pattern with some flow patterns halted and an absence of blood in part of the cast off pattern due to the presence of an object. We also note blood overlaying other bloodstaining present.
CJ66GF-561	The bloodstain is a complex of several clearly separated parts. The entire complex extends over an area of about 20 cm in height and 20 cm in length. It consists of two large uniform partially perforated portions. Each of them can be described as an oval. They show a correctly positioned density according to gravity and flow due to the large volume into two flow patterns. There are several small satellite stains very close to both parts. Furthermore there are some extremely elongated satellite stains over a distance of about 20 cm, suggesting to be formed by a very small angle of impact. Direction and shape suggest an origin from the two larger oval proportions. Taken together one can describe this pattern as a projected pattern. Three parallel parts that show different densities interrupt both flow patterns. Due to this different density a movement can be described from left to right. It can be described as a wiper pattern. A third oval portion that is allocated to the pattern described above is overlapped by the second and the third parallel part of the wiper pattern. This oval part belongs to the projected pattern and is quite similar in shape and size. Both the flow pattern and the third part of the projected pattern are interrupted by a sharp demarcation. Here, a void must be discussed. The blood pattern continues after about 1.5 cm with a small portion of high-density blood.
CJN2XL-560	Three projected patterns with flow patterns that traveled in a diagonal direction from the top left to the bottom right, then changed direction to downward. Two were located in the top left area and one in the approximate center. Three wipe patterns were observed horizontal from left to right. A horizontal linear void was located in the flow patterns from the two projected patterns on the left side of the photograph and at the bottom of the center projected pattern.
CQ223X-560	Item 5 is photograph of a complex bloodstain pattern on apparent foamboard. Three large roughly elliptically-shaped spatter stains are present with the largest measuring ~7.5 cm by 2.5 cm in size. A volume of blood is evident in the two largest elliptical stains with downward flows from these stains. Twelve smaller spatter stains are also present within this pattern. The direction of the elliptically-shaped spatter stains is downward and to the right. These spatter stains are consistent with a projected bloodstain pattern. Three horizontal wipes are present in the bottom half of the projected pattern. The two blood flows, one of the large elliptical stains, and several of the smaller elliptical stains have been wiped through in a left to right direction, resulting in perimeter staining. The wipes vary in length from ~ 7.7 cm to ~ 9 cm and are all ~ 9 mm in height. A possible void is present at the bottom of the projected pattern and appears to have disrupted the two blood flows and the deposition of one of the larger spatter stains.

TABLE 3: Recognition and Description

## Item 5, continued

WebCode-Test	Detailed Pattern Description
CQPZMQ-561	The pattern is a projected pattern from left to right. There are three linear wipes through the downward flow portion of the projected stains. The wipes are from left to right.
CQRXTF-561	This pattern consists of 3 large blood stains that make up a projected pattern where a volume of blood was ejected at an angle to the surface under pressure. Because of the volume of blood a flow pattern was created originating from the two large stains and flowing down the surface. A wipe pattern was also observed in the lower half of the Projected pattern/flow pattern. The wipe goes from left to right and was done after the flow pattern had some period of time to begin drying as there are edge characteristics observed in both of the flow patterns which shows skeletonization. This may also be characterized as a splash or gush pattern as well depending on the circumstances of the case.
CVXQMB-561	In the upper left hand corner are elliptical stains up to ~1x4cm in size. These stains are consistent with projected stains. These stains show directionality down and to the right. The projected stains are of sufficient volume to create flow patterns. The largest flow pattern is ~8cm. In 3 areas of the flow an object wiped through the flow from left to right. The wipe stains extend over another projected stain in the middle of the target. At the bottom of the flow pattern and the middle of the projected stain appears to be a void extending horizontally across the target. Satellite staining is present around some of the projected stain.
D4VQMP-561	Volumes of blood are projected from upper left in a direction down to the right. The stains contain enough blood to create flow patterns. Within a short period of time something wipes through the flow patterns to the right. The wipe patterns consist of three parallel wipes with about 1 centimeter distance, and almost of equal length. This, including the edge characteristics of the altered flow patterns, indicates that the wipes were made simultaneously, perhaps with three fingers. In the lower end of the bloodstain there is a void. The flows, and a projected stain, end on a horizontal line, indicating that something has been removed from the foambord after the bloodstain patterns were produced.
D96WD4-560	Splash Pattern: A bloodstain pattern resulting from a volume of liquid blood that falls or spills onto a surface: Characteristics: 1. Large volume accumulation with an irregular margin with large elliptical stains and exhibiting spines and spatter radiating out. Splash followed by a Wipe pattern- An altered bloodstain pattern resulting from an object moving through a pre-existing wet bloodstain: Characteristics: A smear stain with a preexisting volume of blood, displaced blood from the original boundary and either dried outer ring (skeleton) of the original stain and feathering, striations, diminished volume.
DGY276-561	A large volume projection of blood occurring from left toward right; passive flow occurs with a subsequent wipe from left toward right across the bottom of the pattern. A narrow, linear void is apparent at the bottom of the pattern.
DKXD6P-560	A projected pattern is observed in the upper left of the photo and near the middle. A flow pattern resulted from the upper left projected blood. There is a wipe pattern altering the flow pattern and a projected bloodstain. A horizontal void is seen below the flow pattern and through a projected bloodstain.
E3RDPU-560	Several projected stains are present with flow pattern. There are also accompanying drops present. There is a wipe through the flow pattern. There is also a void area on the bottom of the flow pattern.
E4PNKX-560	Projected stains with associated spining, spatter, and flow were observed on the target. A horizontal wipe through the flow was observed on the target. A void can be observed toward the bottom of the stain patterns on the target.
E7CKTN-560	There is a projected pattern with associated satellite stains in the upper left portion of the target. From the projected pattern, there are flow patterns that are altered by wipe patterns. The flow patterns also have perimeter staining within the wipe patterned area. A void can be observed near

TABLE 3: Recognition and Description

**Item 5, continued**

WebCode-Test	Detailed Pattern Description
	the lower area of the flow patterns.
EB7EQP-560	In the upper left hand corner of the target surface, several bloodstains are observed. The directionality of these stains are from the upper left to the lower right hand corner. Flow patterns are observed extending from the bottom of two of these stains. The directionality of the flow patterns is downward. Three linear wipe patterns are observed through these flow patterns and through additional bloodstains observed in the center of the target surface. The directionality of these wipe patterns indicate a left to right movement horizontally. A void is observed in an area toward the bottom of the bloodstain patterns. Additional bloodstains are observed exhibiting directionality from left to right and downward.
EE7G2K-561	The pattern has the characteristics of projected blood that landed on the target from left to right and at a downward angle. There are long, thin satellite stains corresponding to the parent stains. After making contact with the target, some of the blood flowed downward due to gravity. Where some of the blood flowed, near the bottom of the stain, the stain was altered with three left to right horizontal wipes. Each wipe is approximately 10 mm tall. The wipes are roughly parallel to each other. The top wipe is approximately 92 mm long. The middle wipe is approximately 80 mm long. The bottom wipe is approximately 85 mm long. Where the wipes occurred, the flowed bloodstain was left with edge characteristics typical of a perimeter stain. Some of the blood continued to flow after the wipe occurred. At the bottom of the stain is a void where part of the flow and a parent stain exists.
EP9QLN-561	The upper left corner contains a projected pattern with a flow pattern. There is a wipe pattern through the flow. There is a void in the projected and flow patterns at the bottom of the overall pattern.
EYCZQT-560	The photo consists of at least four projected patterns on a vertical surface. The directionality of the patterns, along with their accompanying drops, is left to right and downward. The direction angle of the patterns is approximately 130 degrees downward (using the vertical scale at the left of the photo as a reference). There are flow patterns in the direction of gravity at the end of the major projected patterns. Three wipe patterns are seen running horizontally through two of the flow patterns as well as one of the projected patterns. The directionality of the three wipe patterns are left to right and run approximately perpendicular to gravity. There is a linear void at the bottom of the flow patterns. This void runs approximately perpendicular to gravity and is approximately 1 cm wide. This suggests that a 1 cm wide object was removed after the deposition of the projected patterns.
F4JQUY-560	This is a complex bloodstain consisting of a number of different patterns. Numerous projected patterns are visible. The projected patterns also have numerous satellite stains. There are some flow patterns originating from the projected patterns. The flow patterns are interrupted by wipe patterns. There is also a void in the lower projected pattern.
FA8EN4-561	Altered bloodstain described as a combination of a projected pattern and a wipe pattern involving sequence. Elliptical shape spatter bloodstains with volume, arranged in a linear orientation observed. The deposition directional angles of the elliptical shape bloodstains are from top left corner to bottom right corner of image, further classified as a projected pattern. The access blood created a flow pattern vertical downwards. Shortly after the creation of the flow pattern an object moved through the flow pattern, due to the thin periphery edge of the flow pattern visible where the object removed the access blood. The object is most probably fingertips which moved through the flow pattern from left to right creating a wipe pattern with three distinctive linear patterns with dimension bloodstaining from the left to right of bloodstain.
FAPKNU-560	A complex stain starting at the top with a projected pattern, leading into a flow pattern from the volume of blood from the stain above. The flow is disrupted by a wipe pattern towards the right of the foamboard (three horizontal lines). Lower down on the projected pattern, below the wipe pattern is a void pattern, where an object prevented a stain. Some satellite stains are seen from the main projected pattern.



TABLE 3: Recognition and Description

## Item 5, continued

WebCode-Test	Detailed Pattern Description
FE434Q-560	This target has multiple patterns present. Towards the upper left corner and approximately middle of the pattern there is a projected pattern. This pattern appears to have been deposited at a 4 o'clock angle/direction with satellite stains of this pattern continuing to travel with the same directionality. The upper two portions of the projected pattern exhibit flow patterns with downward directionality. The left flow pattern has been altered leaving behind the perimeter stains of the flow. The upper portion of the right flow pattern appears to be undisturbed. However, due to the overlapping of stains/patterns it is unclear as to if the lower portion of this pattern has been altered. It appears that something moved through the left existing flow pattern while it was wet causing a wipe pattern. The object causing the wipe pattern travelled through the bottom portion of the projected pattern and continued with an 3 o'clock directionality. However, it cannot be discerned as to if this portion of the projected pattern was altered or not due to the overlapping of stains/patterns observed in this area. An apparent void was visible at the bottom of the target in the lower portion of the projected stain which could indicate something may have been present in this area at the time it was deposited.
FJBNVU-560	Projected bloodstains struck the upper left hand corner of the target. The directionality of these stains is left to right and downward. Satellite stains continued in a similar directionality away from the parent (projected) stains. Flow patterns emanated from the excess blood of the projected stains and flowed toward the bottom of the target. Soon after the flow patterns and satellite stains were created three (3) non-bloodied object(s) wiped through a portion of the flow patterns and satellite stains creating a wipe pattern. This wipe pattern is located 150-200mm vertically. Wiping action formed perimeter stains of previously deposited flow patterns & satellite stains. Three (3) objects were moving left to right when forming wipe pattern. The flow patterns abruptly stopped at ~202-203mm. The ends of these flow patterns exhibit linear characteristics which are atypical. These linear ends on the flow patterns indicates another object impeded the blood from continuing to flow down the target.
FQB9XP-560	This item consisted of a photograph of a piece of white foamboard in the vertical plane. A bloodstain, consistent with a projected pattern, with a flow pattern (down) that had been altered with a wipe (left to right) was observed. A void was observed below the flow pattern. Additional spatter stains were observed with downward directionality around the main stain.
FXE7RM-560	Two projected deposits with associated satellite stains and associated flow patterns are evident at the top left of the image. There appears to be another projected deposit at the lower right of the image. There appears to be a void below the flow patterns and lower projected stain extending horizontally. The flow pattern on the left has been wiped through in three places with the wipe patterns extending horizontally. A possible source of the wiping motions could be fingers.
G2CVMZ-561	A splash pattern where a blood stains resulting from a volume of liquid blood that falls or spills onto a surface, then a flow pattern where a blood stain pattern resulting from the movement of a volume of blood on a surface due to gravity or movement of the target. A wipe where an altered pattern resulting from an object moving through a pre existing wet blood stain. Lastly a void - an absence of blood in a otherwise continuous bloodstain or bloodstain pattern.
G2U4CV-560	A wipe pattern is present where an existing bloodstain pattern (a complex bloodstain pattern consisting of a splash pattern with a visible flow pattern - caused by the movement of a volume of blood on the surface due to gravity) was altered by an object moving through the pre-existing wet bloodstain. There is also a void visible at the bottom section of the complex bloodstain pattern indicated by the absence of blood in an otherwise continuous bloodstain pattern.
G3LXBK-561	This image consists of a projected pattern with flow patterns and satellite stains. Wipe patterns are present. A void is present at the bottom.
G3MUHA-561	This target contains a Projected Pattern made up of 3 large volume stains impacting the surface before other patterns mentioned below. There appears to be a Void in the lower portion of the lowest of 3 Projected stain, as delineated by a straight line/edge through the bottom stain. There

TABLE 3: Recognition and Description

**Item 5, continued**

WebCode-Test	Detailed Pattern Description
	are 3 Swipe patterns showing movement L. to R. through the downward flowing portion beneath the top left projected stain. These 3 Swipe patterns also extend over top of the lowest Projected stain. Additionally, there is a single Wipe pattern beginning at the top Swipe pattern & showing movement downwards through all Swipe patterns and the lowest projected stain, ending at the straight line/edge Void pattern. The Swipe and Wipe patterns appear to be of size similar to finger marks and could have been made by someone's fingers shortly after the Projected stains impacted the surface.
GK8EPE-560	The bloodstain shows a directionality towards the lower right hand corner. After the blood struck the target surface a downward blood flow occurred. This blood flow was disturbed by being swiped through with an unknown object(s) in an apparent left to right motion.
GN66KT-561	There are three direction from upper left to lower right splash pattern in the upper left corner and below, they are visible beneath the three flow pattern which direction from top to bottom. More than above two kinds of pattern around the visible spatter stain. A bleeding wound by external forces may cause the above pattern. In the middle of the target visible three wipe pattern, its direction is from left to right, this three wipe pattern occurred after the splash pattern and before blood was dry. The horizontal movement of the fingers can cause wipe pattern. Under of the plane there's a void, it caused the absence of splash pattern and flow pattern, so there's something here at first.
GQE6RK-560	A projected pattern was found on the upper left corner of the foamboard, resulting in a flow pattern indicating downward directionality. In the middle of the flow pattern there was a set of three horizontal wipe patterns indicating motion from left to right, which was probably created by fingers moved through the preexisting wet flow pattern. On the bottom of the flow pattern was a void pattern, probably formed by an object with a flat top surface during the flowing of blood.
GWF4GP-561	Parent stain is non-spatter stain with irregular margins. It has multiple spines and satellite stains. Satellite stains all show consistent direction. Volume is evident due to the flow pattern. There is a wipe pattern through the flow pattern. Skeletonization (perimeter stains) can be seen on the pre-existing stain.
H27ZGZ-561	In this item we can describe at least three different patterns. 1. A projected pattern associated with large individual elliptical stains (more than 1cm in length) and other smaller ones, which are located in the upper left quadrant of the target surface. These individual elliptical stains go from left to right and slightly downwards. On the right and down of the large elliptical bloodstains of these patterns there are multiple satellite stains with different shapes, sizes and lengths, some of which are shaped like tadpole. 2. Flow patterns associated with the large elliptical stains of the projected pattern. Those flaws are altered by the presence of a wipe pattern on the lower region. 3. Wipe pattern in the lower region. The wipe pattern with rightward direction alters the continuous of the blood flows previously described.
H64JER-560	The pattern observed on the left side and to the center of the target is a projected pattern with flow patterns and associated satellite stains. A wipe pattern is observed in the center of the target resulting in perimeter stains through a portion of the projected pattern. A void is observed below the wipe pattern.
H6AMGJ-560	There are projected bloodstains at the upper left corner and another projected bloodstain approximately in the centre of the image. These projected blood stains are travelling from left to right and downward. There are flow patterns and spatter stains associated with the projected bloodstains. There are three wipe patterns across the flow patterns that have been wiped from the left to the right and approximately horizontally. The flow patterns terminate at the same horizontal line, indicating that something has prevented the flow patterns from traveling pass this line. There are spatter stains beyond this horizontal line, resulting in a void.
H7FE2J-561	Several large projected stains with downward and left to right directionality and associated



TABLE 3: Recognition and Description

**Item 5, continued**

WebCode-Test	Detailed Pattern Description
	downward flow patterns. Several satellite stains are also present. Towards the bottom of the overall pattern are three horizontal linear wipe patterns with left to right directionality. Below the wipe patterns is a horizontal void.
H94VBR-560	A projected pattern is located in the upper left corner. Flow patterns and spatter stains are associated with the projected pattern. A wipe pattern appears in the center of the target, altering the flow patterns and additional bloodstaining present. Perimeter stains are present in the wipe pattern. A void appears below the altered staining near the center of the target.
HJQHW-560	Red-brown stains, consistent with a projected pattern, were observed. Flow patterns were also observed and a wipe pattern was observed through the flow patterns. There is area, consistent with a void, below the wipe pattern.
HMP624-560	Blood is an altered stain: a projected pattern comprising large splashes of blood (with satellite stains) that have pooled and then, where sufficient in volume, have run/flowed down the vertical plane; the flowed blood and some of the satellite stains have been altered creating a wipe pattern; the size, appearance and spacing of pattern is indicative of fingers wiping through the blood.
HRJYY6-561	Five large elliptical stains with downward flow. Three streaks through flow stains traveling left to right. Satellite stains are present around large stains. The flow stains end abruptly in a horizontal line. This is consisted w/ a projected pattern with downward flow that has been wipe through and ends abruptly creating a void.
HXRETM-560	A flow pattern is evident in the top LH corner, characterised by the downward flowing movement of a volume of blood. There is a wipe pattern indicating the movement of an object through the existing flow pattern. In addition, there are numerous projected stains characterised by their elliptical shape - some with elongated tails (terminal edges) that exhibit directionality in an upward motion (toward the left) and other stains with shorter tails (terminal edges) exhibiting directionality in a downward motion (toward the right).
HZUC4F-561	Item 5 depicts a complex stain that appears to be the results of several events. Large spatter stains usually associated with projected blood can be observed traveling from the top left towards the middle right. Flow patterns can be observed at the ends of these drops. Three wipe patterns traveling from left to right appear in this flow pattern leaving perimeter stains. The blood in the flow pattern appears to continue flowing after the wipe indicating it was not completely dry when the wiping motion occurred.
J2LGA8-561	The morphological characteristics of this pattern show that projected is the original mechanism. It is a set of pattern due to the ejection of blood under pressure. The source of blood is located on the left side of the foamboard. There is a wipe pattern oriented from left to right, with an aspect/form of fingers. This wipe pattern has been deposited after the projected pattern.
J9NT76-560	Item 5 appears to have projected bloodstains present in the upper left corner that continue into a flow pattern that extends from left to right and downward. The flow pattern has been altered by a wipe pattern extending laterally from left to right.
JAYJF-560	Item 5 consisted of four recognizable patterns. There was a projected pattern with associated flow pattern(s) resulting from the gravity pulling on the large volume of blood from each of the projected pattern stains. There was a wipe pattern consisting of three linear wipes traveling from the left to the right originating at the flow pattern located on the left side. There was a possible void near the bottom of the bloodstain pattern. The void is visible in the lowest stain in the projected pattern and appears to have interfered with the flow pattern of the other projected pattern stains.
JTVVY-560	Item five consists of a projected pattern with two larger stains in the upper left and one in the center as well as several smaller stains. There is directionality from the top left toward the bottom right. There are also flow patterns from each of the large stains. There are three wipe patterns going from left to right across the flow patterns and the lower right projected stain. At the bottom of the flow

TABLE 3: Recognition and Description

**Item 5, continued**

WebCode-Test	Detailed Pattern Description
	patterns and the lower right projected stain there is a void.
K7D78Q-560	On item 5 I recognise a projected pattern with a resulting flow pattern due to gravity. I also identify a wipe pattern from left to right through the flow pattern, with a void at the bottom of the flow pattern. I can also identify some satellite stains that formed from the parent stain as a result of the impact of the projected bloodstain pattern.
K88WD6-560	The bloodstain beginning in the upper left corner of the target surface appears to be a projected pattern with a directionality that's traveling downward towards the lower right corner. An altered stain was created by three horizontal wipe patterns that moved through the projected pattern. Edge characteristics were also observed in the flow pattern from the projected pattern. A small void area also appears to be near the bottom of the bloodstain pattern.
KFFNHT-560	Projected pattern: a blood stain pattern resulting from the ejection of a volume of blood under pressure. Wipe pattern: an altered bloodstain pattern resulting from an object moving through a pre existing wet bloodstain.
KKVYWW-561	Splash Pattern - a bloodstain pattern resulting from a volume of liquid blood that falls or spills onto a surface and a wipe pattern occurred. (An altered bloodstain pattern resulting from an object through a preexisting wet bloodstain.
KPQP4U-560	(Projected pattern) a blood stain pattern resulting from the ejection of a volume of blood under pressure. (Wipe pattern) an altered blood stain pattern resulting from an object moving through a pre existing wet blood stain.
L9C27J-561	Item 5 is a complex pattern which appears to be comprised of a projected pattern of stains in a somewhat linear orientation, exhibiting volume with flow. This projected pattern appears to originate to the left of the target and travel to the right and downward in a diagonal. The projected pattern has been altered by three distinct wipes. The wipes exhibit skeletonized edges (perimeter stain) on what appears to be the lead boundary, and horizontal striations throughout their lengths. It appears that there was additional flow in the projected stains after the wipes occurred.
LB33AL-560	Based on the choices provided by CTS, this target surface possessed the following bloodstain patterns: A projected pattern, with areas of vertical flow extending from it, was located in the upper left and center portion of the target surface. An altered stain was located at the center of the target surface. This stain was created by a wipe pattern, extending across the target surface. A void pattern was visible at the bottom of the target surface, preventing the deposition of blood in that location. CTS specifically stated that this was not a reconstruction and to focus on pattern recognition. No sequencing or directionality were indicated based on this instruction.
LJDA7P-560	Bloodstains consistent with a projected pattern were observed in the upper left corner and center of the target. A flow pattern is noted at the center of the target, originating from the upper stains of the projected pattern. A wipe pattern is observed going through the flow pattern and lower stain of the projected pattern. The wipe pattern consists of three horizontal wipes, going from left to right, leaving perimeter staining on the left flow pattern. Finally a void is observed in the lower right area of the target, disrupting the flow pattern and lower stain of the projected pattern.
LJTTQM-560	Two large volume stains are located in the upper left area of the photo. These projected bloodstains exhibit an upper left to lower right directionality with associated angled, downward flow. A third large volume stain is in the middle of the photo. This projected bloodstain exhibits a similar directionality. There is a void in the lower portion of this bloodstain. Elliptical spatter bloodstains are associated with all three projected bloodstains and exhibit similar directionality. The third large volume stain and the flow patterns have all been wiped through by three parallel motions in a left to right direction resulting in areas of perimeter stains.
LNNMNN-560	There are three splash patterns which have started to flow downwards (flow patterns). Then there is a wipe pattern to the right on the flow pattern. There is also a void on the area of the lowest splash

TABLE 3: Recognition and Description

**Item 5, continued**

WebCode-Test	Detailed Pattern Description
	pattern.
LP238G-560	Two spatter stains, spanning 2.5cmx7cm and 1.5cmx4cm, in the upper left quadrant (with a downward and right directionality) and possible a further one centrally located (among other staining). All of these spatter stains could form part of a projected pattern. The two spatter stains in the upper left have associated flow patterns in a downward direction. The left most flow pattern has been disturbed by a wiping motion at three distinct points in a right direction (possibly due to fingers). Elliptical spatter stains with a right and downward directionality are distributed throughout and are likely associated with the larger spatter stains/projected pattern.
LQXHKE-560	There is a projected pattern, apparently traveling from the upper left toward the lower right. Flow patterns extend downward/downward to the right from the lower portions of some of the projected pattern stains. Through the lower projection and flow pattern stains are three parallel/horizontal wipe patterns, which also resulted in perimeter stains. There is a possible linear/horizontal void located near the bottom/center of the overall pattern.
LVM2FG-560	There is a projected pattern in the upper left area of the target with a few resulting satellite stains. There are flow patterns associated with the projected pattern in the center of the target. The flow patterns have been altered by a wipe pattern resulting in perimeter stains in the original flow patterns. There is a void near the bottom right area of the flow patterns.
LFXZ6-561	A volume of blood has been projected at an angle from left to right onto the surface producing several elliptical stains with irregular margins. There has been sufficient blood deposited for it to flow downward from these stains under the force of gravity. Before the blood has dried, some of the flow pattern and a bloodstain have been wiped horizontally from left to right. This has resulted in three approximately parallel wipe patterns varying in length between 77 millimeters (mm) and 90 mm. Beneath the bottom wipe pattern the blood flow had stopped after about 9 mm forming a relatively straight horizontal edge. This could indicate contact with something in this area that had a straight edge and was parallel to the wipe patterns.
LZGY3M-561	The bloodstain consists of a projected pattern traveling from upper left corner downward toward the lower right corner. After initial deposit of stain, gravity began to pull and caused a downward flow pattern. A wipe pattern was then created through the flow pattern, consistent with being made by 3 fingers. At the bottom of the stain there appears to be a straight horizontal void.
M2T3AJ-560	There are at least two (potentially-overlapping) stains with significant volume and flow in the upper left, with associated spatter stains, consistent with projected-pattern stains. There was also a partially-voided spatter stain of similar character in the center, also consistent with being a projected-pattern stain (partial). There are downward flow patterns in several of the stains, as well as an apparent flow stain which is slightly left-to-right and downward. (This may indicate that the target was rotated). There are altered stains, starting with the left-most flow pattern, being wiped left-to-right. There are perimeter stains visible (both spatter stains, and from the downward flow) within the wipe patterns. There is a horizontal void which interrupts two downward flow stains (and possibly more) and the lowest projected-pattern stain.
M398XA-560	This bloodstain pattern consists of projected blood with flow. Three wipes are noted moving left to right through the flow and a spatter stain. A void is noted underneath the wipe patterns, halting the flow from moving further.
MBZQCH-560	Flow pattern arising from initial deposits of liquid blood on the target surface. Wipe pattern resulting from an object (possibly fingers) moving through the pre-existing flow pattern. The wipe pattern appears left -> right direction on the page due to presence of perimeter edge on left hand side of altered flow pattern. Spatter patterns associated with the initial deposits of liquid blood on the target surface, depicting directionality L -> R. Uncertain of the nature of the initial deposit of liquid blood apart from the direction of movement from left to right. Possibly arose from blood drops dispersed through the air due to external force applied to liquid blood, or, possibly from

TABLE 3: Recognition and Description

## Item 5, continued

WebCode-Test	Detailed Pattern Description
	transfer of an object in motion striking the target surface.
MEY29H-560	Note: the bloodstaining is confined to a diagonal line in the photo from the top left corner to the bottom right corner. In the top left corner of the photo there are 3-4 large spatter stains (~7-13mm diameter); directionality towards the bottom right corner of the photo; two with associated flow patterns (approximately in the middle of the photo). Note there is insufficient information in the pattern to further classify the spatter stains. There is possibly one large spattered stain (~13mm diameter) approximately in the middle of the photo – hard to determine as stain is co-mingled with flow and wipe patterns (described below). There are three wipe patterns through at least one of the aforementioned flow patterns (the flow to the left of the photo). Unable to determine order of deposition of second flow (to the right of the photo), wipe and possible spatter stain from photograph. There are at least 15 elliptical spatter stains (~≤1 mm diameter) dispersed across the bloodstaining; directionality towards the bottom right corner of photo. At least six of the spatter stains have an acute impact angle indicating the source of the liquid blood was close to the target surface. There is insufficient information to further classify the spatter stains.
MJA69R-561	Splash followed by swipe stain. Initially, started as a projected pattern.
MLFM7N-560	I recognize a complex pattern which consists of a projected stain which developed into a flow pattern. The flow pattern was interrupted by a wipe pattern. One strain of the flow pattern runs into a transfer stain which is interrupted by a void and accumulates towards the end of the object once part of the crime scene.
MQU6LJ-561	There are multiple projected stains in the upper left quadrant of the target surface, at a directionality toward the middle of the photograph and downward at about a 45 degree angle. These two top projected stains had enough volume to allow flow patterns downward due to gravity. There are three horizontal wipe patterns through the downward flow patterns from the two top projected stains, as well as a third projected stain below and slightly to the right of the two top projected stains. There is some type of void pattern at the bottom of the stain pattern, possibly some type of object in place on the target surface at the time the projected patterns were deposited. The object appears to have been removed from the target surface after stain deposition, leaving the void pattern.
MRLHQN-560	A projected stain deposited in the upper left hand corner extending to the lower right corner. Flow pattern emanating from lower edges of projected pattern extending down toward bottom edge. Three linear wipe patterns through existing flow pattern and lower projected stain.
N28UQ8-561	A projected pattern measuring ~7 1/2 inches wide by ~7 1/2 inches high was located towards the left side of the target. The stains from the projected pattern had upper left to lower right directionalities and flow patterns extended downward from the primarily elliptical stains of the projected pattern. Three linear, parallel wipe patterns with feathered edges, measuring ~3 inches to ~4 inches, were towards the bottom of the projected pattern. The direction of the wipes was horizontally left to right. A void, measuring ~1 cm wide, is at the bottom of the projected pattern and below the wipe patterns. The void disrupts the vertical flow patterns from the projected pattern.
NECZUE-561	Item 5: A photograph of a white foamboard surface in the vertical plan with a bloodstain pattern on it was received as Item 5. The stains were present throughout the middle section of the photograph. Three larger elliptical stains had blood flow emanating from two of them. This portion of the photograph is consistent with a *projected pattern. The two blood flows were *altered by three light density horizontal blood lines which moved from left to right. Several elliptical stains of varying length were also observed, the largest of which also showed evidence of disruption to the right. This portion of the photograph is consistent with a *wipe pattern. Close to the bottom of the stained area, bloodstaining is void and then continues after a short distance.
NM7AXH-560	Two large volume spatter stains (projected and/or cast-off, labeled A and B) with downward right directionality (4 o'clock) were in the upper left of target with satellite stains around them. Both of

TABLE 3: Recognition and Description

**Item 5, continued**

WebCode-Test	Detailed Pattern Description
	these stains had flow patterns that extended with the same directionality (4 o'clock) and then transitioned to downward flow (6 o'clock). Unusual edge characteristics were noted on stains A and B which could indicate voids in these areas. The bottoms of the flow patterns of stains A and B also had unusual edge characteristics. A smaller spatter stain (labeled C) with similar directionality to A and B was above stain B. Another large volume spatter stain (labeled D) with a void was observed below and right of stains A and B. Three wipes were present near the center of the target.
NRLKBL-560	Blood was projected onto a target, creating two large stains in the upper left hand corner. The force was from upper left to lower right. There are some smaller spatter stains exhibiting this same directionality. With the larger volume stains, once the momentum was gone, the blood flowed downward on the vertical target. Some time after the initial stain was created, an object(s) was wiped through the flow portion of the stains, from left to right. This created an altered stain.
NYL3QX-560	The vertical foam board has intercepted projected airborne blood which has hit with some degree of force, causing associated smaller satellite stains to be deposited. The two larger upper stains of this pattern had associated flow patterns, one of which (the left) showing a change in direction. The flow patterns, particularly the one on the left, appeared to have dried slightly before being wiped horizontally from left to right. These three wipe patterns appear to have been caused by the movement of a small object causing striations. One possible explanation is that a finger(s) was used to wipe the blood. Blood appears to have continued to flow after these wipes were created, pooling slightly at the top of each wipe. An apparent void disrupting the lower edge of the flow patterns was present indicating the presence of an object at the time this pattern was made.
P6HGP6-561	Primary stain is top left to lower right flow pattern from projected blood. There is a left to right wipe pattern through the bottom portion of the flow pattern. A void pattern can be seen at the bottom of the flow pattern.
P6LZET-560	Blood projected from top left of page towards bottom right of page, three spurts (two at the top, one in the middle if the page under the wipe pattern). "Pooling" of blood at bottom of spurt patterns show downward movement of/with blood "flow" (due to gravity - vertical plane). Satellite stains with a spike like appearance off the parent stains are also seen from the projection of blood hitting the surface. An apparent void pattern is present through the bottom half of the projected stain near the middle of the page (the lower spurt). Blood "pooling" at the bottom of the spurt where the void is present as well as the "interruption of flow" in the spurts at the top of the page indicate an object was present (creating the void) when the stains were projected, and removed sometime after the stains were allowed to settle/pool/dry a bit. Also note: the pattern of the lowest spurt continued over the object that made the void, so part of that pattern might remain on the removed object. The other two blood flows from the higher spurts were interrupted and ceased due to the void/object block. There is a wipe pattern through the projected blood patterns. Three wipes moving left to right wiping through the farthest left flow pattern first, and then through the flow pattern of the second spurt as well as the body of the third (and lowest) spurt. The wiping pattern came after each projected stain, as exhibited by the "skeletonization" of the edge of all 3 patterns being wiped through. The wipe marks move horizontally across the page and are about 3-3 1/2 inches horizontal, and 1/4 to 3/8 inches in height. Also note: the top most wipe pattern, which reached the farthest to the right, also wipes through the satellite stain/spike on the right of the page. Measurements of stains can be provided upon request. The projected stains ranged from 1.4 -3 inches in length, 1/2 to 1 inch wide (measuring body of spurt, not flow). The stain farthest left is the largest in size. The flow patterns are interrupted by the void, so measurements were not taken.
PFJJCM-560	Projected patterns with associated spining, satellite spatter, and flow patterns were observed on the target. Wipe patterns beginning at the left-most flow pattern and extending to the right were observed on the target. An apparent void was observed near the bottom of the staining on the target.
PPPLEY-560	The bloodstain located on the target area appears to be a projected amount of blood which runs from the upper left corner of the target area to the lower right area of the target area. A flow

TABLE 3: Recognition and Description

**Item 5, continued**

WebCode-Test	Detailed Pattern Description
	pattern is observed running down from the top projected area of blood and a wipe pattern can be observed running from the center left, furthest, bloodstain to the right of the target area in three distinctive areas. I also observed an area which appears to be a void at the bottom of the target area. Bloodstains are observed above and below the void area.
Q464NE-560	A projected pattern was observed in the upper left section of the foam board resulting from the ejection of a volume of blood under pressure onto the vertical foam board surface. Satellite stains, which originated during the formation of the projected pattern, were noted adjacent to the projected pattern. Flow patterns were observed from the projected pattern in the middle area of the foam board which resulted from the movement of a volume of blood due to gravity. In the middle section of the foam board, the flow pattern was altered by a wipe pattern, which resulted from an object moving through the preexisting wet flow pattern. The wipe pattern originated from the left side flow pattern and moved from left to right across the foam board, through another flow pattern and one of the stains from the projected pattern, traveling a distance of approximately 9cm before stopping. Below the flow/wipe/projected pattern was a void, indicating a disruption in an otherwise continuous bloodstain pattern.
Q9WB62-561	In the top left and middle right area you can see some projected stains with directionality from top left to bottom right. In the middle of the page a flow pattern can be observed. Through the flow pattern a wipe pattern can be seen (three parallel lines from left to right). Underneath the wipe and flow pattern a small void can be observed whereas the bloodstain pattern is kind of divided into two parts.
QARWXT-560	There are two splash patterns at the top of the image and another one in the middle of the image. An object (hand-like) created a wipe pattern through the passive flow pattern that resulted from the first two splash patterns. The most likely sequence of events is that first the splash patterns at the top were created and then the wipe pattern followed by the last splash in the middle of the image.
QB3WUM-560	Projected pattern - a blood stain pattern resulting from the ejection of a volume of blood under pressure. Wipe pattern - an altered blood stain pattern resulting from an object moving through a pre-existing wet blood stain.
QDDJQF-561	Some spatter stains of different sizes with a direction from upper left to lower right. The larger spatter stains resulted in two separate vertical orientated flow patterns. Parts of both flow patterns and some spatter stains are (partially) wiped out during a rightward horizontal movement of three separate objects, resulting in altered bloodstains with a perimeter effect in both the flows and the spatters stains.
QKQRRH-560	Item 5 is an altered bloodstain that consists of a projected pattern and a wipe pattern that occurred some time later. The original projected pattern has two areas of volume of blood from left to right and downward on the vertical plane, with two associated downward flow patterns. There was also a large volume of blood in the right lower area of the bloodstain. The overall size of the entire bloodstain measured approximately 175mm by 190mm. The associated downward flow patterns measured between 48mm and 78mm respectively. There is a void present below the large lower right volume bloodstain. Some time after the projected pattern occurred, three wipe patterns occurred from left to right through the two flow patterns. The wipe patterns measured approximately 80mm in length and 8-10mm each in width. The peripheral characteristics of the original flow pattern is still visible after the wipes occurred.
QP9RDP-560	(1)It is projected pattern because it is bloodstain resulting from the ejection of a volume of blood under pressure e.g. stain or blood came out of artery. (2)Wipe an altered bloodstain pattern resulting from an object moving through pre-existing wet bloodstain. (3)Flow pattern- bloodstain resulting from the movement of a volume of blood on a surface due to gravity or movement of target.
QQ49QL-560	Projected bloodstain pattern - 2 unaltered projected bloodstains with flow under gravity. 3rd



TABLE 3: Recognition and Description

**Item 5, continued**

WebCode-Test	Detailed Pattern Description
	projected bloodstain further down altered - wipe (Left to Right) across flow of first projected bloodstain and through third projected bloodstain (possibly 3 fingers?) Some satellite bloodstains from projected bloodstains. Void seen to lower staining - straight edge. Pooling to ends of flow due to gravity.
QUH7X9-560	Projected stains with accompanying downward flow. Wipes from apparent fingers present from left to right through portion of staining resulting in alteration of the staining. Apparent void noted across lower portion of target surface.
QWR73F-560	To the top corner of the image is a projected bloodstain pattern with a flow pattern extending downwards (to the bottom of the image) from the two main deposits. There is an apparent void at the end of the flow pattern, causing the pattern to end. There is a wipe pattern of at least three linear marks running parallel across the image from the first flow pattern to the left of the image and crossing the second flow pattern.
R7PFWH-560	Projected patterns, with associated downward flow patterns, are present in the upper left hand corner of the target. A partial, projected pattern is also visible below and slightly to the right. A wipe pattern, consisting of three (3) relatively parallel, linear stains is observed passing through the downward flow from the projected pattern above as well as the projected pattern to the right, creating altered stains in this area. This wipe pattern exhibits characteristics consistent with being created horizontally, from left to right. A void is apparent near the bottom of the overall staining area and disrupts the deposition of the downward flow patterns above as well as the lower, more centrally located projected stain.
RB37CC-561	At least three separate projected patterns are seen in the top left of the image and a possible additional projected stain in the centre of the image, with associated flow downwards and subsequent pooling at the end of the flow patterns. Three wipe patterns, with movement from left to right of the image, are seen in the approximate centre of the image, through the flow patterns. Sequencing of the separate flow patterns relative to the deposition of the wipe patterns in the image can be made due to the interrupted appearance of the flow patterns and the presence of perimeter stains within the wipe patterns. It can be concluded that the wipe patterns were created subsequent to the left-most flow pattern. Numerous stains with direction from top left to bottom right of the image and with acute angles of deposition are seen among the projected and wipe patterns. It is believed these stains are associated with the deposition of the projected patterns. A horizontal void interrupting the flow patterns is seen at the lower centre of the image.
RFBGED-560	This bloodstain pattern is consistent with a projected bloodstain pattern with flow pattern that was altered by objects moving horizontal across the bloodstain from left to right, creating a wipe pattern. There is evidence of perimeter stain showing that a period of time passed between when the blood was deposited and the wiping action. There is a void area, with a width of approximately 3/8 inch where the pattern abruptly stops with part of the bloodstain pattern extending below the voided area.
RFCACL-561	Projected pattern - a bloodstain pattern resulting from the ejection of a volume of blood under pressure. Wipe pattern - an altered bloodstain pattern resulting from an object moving through a pre-existing wet bloodstain.
RG8YFE-561	A projected pattern in the upper left corner, followed by flow of the projected blood. There is a wipe pattern through the flow portion. At the bottom center there is a void.
RGEVC9-561	Item 5 is an image of a vertical plane that contains three projected stains (with satellites) each with a downward flow pattern, three parallel wipes, and void. The two uppermost projected stains have flow patterns extending in a downward direction; the flow pattern off the left stain is angled indicating movement and the flow pattern off the right stain is slightly angled and passes over the wipes and lower projected stain. The three parallel wipe patterns are perpendicular to the flow patterns and are underneath the lower projected stain. There is a void on the bottom margin of the

TABLE 3: Recognition and Description

**Item 5, continued**

WebCode-Test	Detailed Pattern Description
	flow patterns and lower projected stain.
RR7Q2M-561	From top to bottom: Splash Pattern - Primary stains not small circles or ellipses, no regular margins but numerous satellites and spines present with no random spatter on margins, spines and satellites radiating out from the pattern. Flow Pattern - Primary stain not small circles or ellipses, regular margins, not absorbed into the surface but movement present with surface contour or due to gravity. Wipe Pattern - Primary stain not small circles or ellipses, no regular margins, no satellites and spines present, pre-existing stain present with movement through the wet bloodstain. Void - An area within the generally continuous bloodstain or bloodstain pattern that lacks bloodstains or indicates an absence of blood.
RUANAU-560	Parent stains formed as projected pattern upper left hand corner with associated satellite stains (with directionality) and flow patterns. Subsequent wipe pattern (possibly with hand/fingers) horizontally through flow pattern mid centre when partially dry. Void in lower part of pattern.
RVPK3U-560	I observed downward projected blood stains with accompanying perimeter stains. The upper projected blood stains have flow patterns. There are three wipe patterns passing through the flow patterns. There is a void at the base of the flow pattern.
RWK9GJ-561	Blood stain consisting of three irregular shaped stains (splashes) with diagonal directionality. There is an accumulation of blood at the bottom of these stains leading to a flow pattern and three horizontal wipe patterns. Blood has continued to flow from the splashes over the wipe pattern. There is a void present at the bottom of the pattern.
RX2BF6-560	Two splash stains that have been altered that have a wipe pattern at the bottom of the stains
T3HGZG-560	Three large irregular-shaped spatter stains with flow, with elongated satellite stains exhibiting similar downward and right directionality. Three wipes with lateral movement left to right extend 8.5cm to 9cm from the flow on the left. Wipes measure up to 10mm wide. There is also a thin (~10mm) wide void near the bottom of the pattern which is at least 62mm long and may extend across the width of the image. Conclusion: Projected blood with flow and wipes, with a void.
T3R6QB-560	At the upper left of the image are two irregular shaped stains associated with thin, linear extension and some spatter stains. In my opinion these irregular stains do not fit into any distinct bloodstain pattern category. However, both stains appear to terminate at the bottom as flow patterns. Running vertically across the flow patterns are three, linear wipe stains caused by an object such as fingers moving left to right through the staining. A further irregular shaped stain is present at the bottom, right of the image. Due to the irregular shape and positioning within other staining I am unable to further categorise this stain. The bottom edge of the flow patterns and the lower irregular stain terminate suddenly at the same height from the ground. This could indicate an intervening object (s), that has since been removed, was present at the location causing a void.
T8XXK7-561	Item 5 is a vertical surface with three primary events, a projected pattern, wipes, and a void. The upper left of the target has stains characteristic of a projected pattern with associated satellite spatter and flow patterns. The pattern has three heavy drops that originate in the upper left of the target and has diagonal directionality towards the bottom right of the target. Prior to the projected stains drying, three wipes altered the lowest heavy drop and associated flow patterns from the two higher drops. The wipes move in a left to right direction. The target also appears to have a void pattern that altered a flow pattern and the bottom drop from traveling continuously.
TBXAG7-560	There is a projected pattern that appears to originate from the upper left hand side of the photo. There are also some flow patterns that were created from the projected pattern. There is a wipe pattern through at least some of the flow patterns, creating perimeter stains. There is also a possible void area towards the bottom right of the photo.
TJQ7HM-561	1. It is a Splash Pattern: "A bloodstain pattern resulting from a volume of liquid blood that falls or spills onto a surface." 2. The bottom part of the splash pattern has a Wipe Pattern: "An altered



TABLE 3: Recognition and Description

**Item 5, continued**

WebCode-Test	Detailed Pattern Description
	bloodstain pattern resulting from a object moving through a preexisting wet bloodstain" through/on it.
TR7ZJB-560	Projected stain deposited on vertical surface. Subsequent flow pattern as a result of gravity, which has been wiped through while the stain is still liquid. Direction of wipe from left to right.
U3G28F-560	I recognised a complex pattern consisting of a projected stain which developed into a flow pattern, which was interrupted by a wipe pattern. There is also a void present in one of the stains in the projected pattern.
U8BV6G-560	This pattern exhibits a bloodstain splash pattern, three separate bloodstains were observed. The first larger stain toward the top left of the target struck the surface from left to right. The volume of blood striking the surface and as a result of gravity began to flow down the target. This is observed by the flow-marks extending from the stain. This stain was then altered at the flow marks, observed are three linear wipe marks extending from the far left of the stain. The linear wipe marks extend into a preexisting splash stain #2 at the bottom center of the target. The wipe marks terminate to the far right of the target. Then a third splash stain was deposited at the top of the target to the right of the first stain. This stain began to flow down the target as the flow marks are observed. The flow marks in this stain#3 as a result of gravity began to flow down the target over top the preexisting wipe marks and into the bottom splash stain.
UEU7EC-560	There are 2 flow patterns which originate in the upper left hand corner and flow in a downward left to right direction. There is a wipe pattern which creates 3 horizontal lines in a left to right direction. The approximate length of the lines are 3 7/16" (top line), 2 7/8" (middle line) and 3" (bottom line). There is a void pattern between the lines and towards the bottom of the pattern. There is spatter which occurs in a left to right downward direction.
UEYAG4-560	Several red-brown stains, consistent with a projected pattern, were observed. Downward flow patterns were present originating from the projected pattern. One of the flow patterns was altered with three horizontal wipe patterns resulting in a perimeter stain. A void was noted interrupting the downward flow patterns.
UGX2XE-561	There is a projected pattern from upper left to lower right of the target with vertical flow patterns emanating from various locations on the projected pattern. There are three parallel, horizontal wipe patterns from left to right through a vertical flow pattern, altering the flow pattern and leaving the perimeter stain from the flow. Additional flow subsequently continues into the wipe pattern area. There is a horizontal void area near the bottom of the stained area in both the projected and flow patterns. There are some bubble rings present in the projected pattern.
UKHPWU-560	Appears to be a projected pattern deposited at an approximate 34-37 degree angle, but there is a lack of well-formed stains for me to make a more definitive analysis. There is a wipe pattern (three, possibly fingers) through the tails of the projected pattern. Volume of blood appears to run down the surface at a 90-degree angle.
UR4MKG-560	Projected patterns are observed on this target. Below the projected patterns in the upper left quadrant of the target, a flow pattern is observed below each projected pattern. In addition, the flow patterns are altered, creating a wipe pattern consisting of three (3) horizontal linear wiped stains going through both of the flow patterns near the end of the flow patterns. A void is observed at the end of the flow patterns.
UWET39-560	In the upper left corner, there is a projected bloodstain pattern with associated flow patterns. The flow patterns are altered by the presence of three (3) horizontal wipe patterns leaving perimeter stains in the flow patterns. There is a void in the bloodstain pattern near the bottom of the staining.
V2YF7D-560	The image depicts a projected pattern with directionality downward diagonally to the right. Several flow patterns extend from the lower right edges of the projected stains. Three parallel wipe patterns cross two of the flow patterns and the lower projected stains in a left to right direction creating

TABLE 3: Recognition and Description

## Item 5, continued

WebCode-Test	Detailed Pattern Description
	perimeter stains. Several satellite stains are to the right and below the projected pattern stains and have a similar downward diagonal directionality. A void pattern with at least one horizontal edge is in the lower center of the image and interrupting the lower projected stain and flow patterns.
V32T68-560	Blood was projected onto a vertical surface, at an angle from top left to bottom right. This lead to a flow pattern, that starts from top left of board (as viewed) to bottom right. The flow changed directions down towards the bottom center of the board- due to gravity or possibly if the plane/board was turned. There was a wipe through the flow, after the direction change of the flow, as visualized by partial drying of staining/skeletonized stains being present. There appears to be a void at the bottom of the pattern, possibly linear, as there is a break in the flow, only to continue below.
VAHD4D-561	Pattern of three horizontal wipe patterns moving from left to right is noted in the center of the image. There is an impact spatter pattern in the upper right portion of the image that moves in a downward direction from left to right resulting in vertical flow patterns. The wipe pattern happened after the impact patterns as the wipes occur in the vertical flow pattern from the impact.
VAXUX7-561	Projected spatter (downward, left to right) with flow and a void near the bottom of the pattern. Wipes (left to right) through flow of the projected spatter.
VBC4AR-560	Three large splashes of blood (Splash Pattern) which have run causing a flow pattern. The flow pattern from the left splash has been altered and there is a wipe pattern travelling to the right. Satellite stains from the large splashes of blood are also present. The lower drip appears to have a void between the head and subsequent run.
VCHRKB-560	A projected pattern, with downward flow and satellite spatter, is present on the upper-left and center of the target. There is also a wipe at the center of the target. The wipe appears go from left to right, starting on the left-most downward flow pattern. This left-most flow pattern exhibits perimeter staining. Toward the bottom right of the pattern, there appears to be a void.
VDFV7-561	The target surface is a foam board in the vertical plane. A projected pattern is on the board & travels from the top left to the bottom right. Originating from the projected pattern are flow patterns moving from top to bottom. Moving left to right, through the projected & flow patterns are the linear wipe patterns. Below, and parallel, to the bottom most wipe pattern is a void within the projected & flow patterns.
WYTYG-561	In the upper left hand corner of the image there is two bloodstains which are two large blood drops. Flow patterns are originating from these two blood drops. A wipe pattern (similar to fingers) going through the flow patterns (from left to right) is visible. The movement through the existing flow patterns occured before the blood had dried. Another large blood drop is visible within the wipe pattern. In the lower right hand corner, a void is observed throughout the flow patterns. Satellite stains emerging from the blood drops are also visible on the image.
VYWE7F-560	Multiple patterns are observed on Item 5. A projected pattern is observed. A projected pattern is a bloodstain pattern resulting from the ejection of a volume of blood under pressure. The stains are large elliptical stains in a linear orientation. A large volume is evident in the two (2) large stains on the upper left hand corner of the target surface, demonstrated by flow. There was also satellite spatter (elliptical stains) and spine-line stains observed near the larger elliptical stains. A wipe pattern was also observed in the center of the target surface. A wipe pattern is an altered bloodstain pattern resulting from an object moving through a preexisting wet bloodstain. A void was present below the lowest elliptical (projected) stain.
W2FNXT-560	The stain originates near the top left corner of the surface with a projected pattern composed of (2) main deposits. These deposits flow downward and to the right. The middle area of the stain progresses with flow pattern in a downward direction. Near the bottom third of the stain, (3) horizontal wipe pattern marks were seen going in a left to right direction through the flow pattern area; the perimeter stains from the flow pattern were still visible. Below the wipe pattern a void was

TABLE 3: Recognition and Description

**Item 5, continued**

WebCode-Test	Detailed Pattern Description
	seen with an additional small deposit visible below the void.
W3ERQ4-560	A projected pattern was noted as present in the upper left and center of the target. Flow patterns, spinning and satellite spatter were associated with the projected pattern. Three wipe patterns were noted as present from left to right through the center of the target. An apparent void was noted as present in the lower center of the target.
WAHNK2-560	I examined the bloodstain pattern in item 5 and observed the following patterns: A projected pattern of blood with satellite stains. This pattern has a downward, left to right directionality. A downward flow pattern is observed originating from the blood in the projected pattern. Three wipe patterns are observed; the three wipes are fairly parallel to each other and appear to have been made in a left to right direction. Near the bottom of the pattern the edge characteristics of the pattern appear flat and slightly pooled as if an object was against the target and the blood flowed downward and pooled against the barrier created by the object. This object appears to have also created a void in this same area.
WLMUMM-561	Volume stains, with directionality consistent with a projected pattern. There is associated flow. There is a wipe through the flow, direction left to right, in a horizontal direction.
WLQQJ6-560	This item consists of multiple overlapping patterns. There are at least four elliptical stains measuring approximately 2.5 X 1.0 cm or larger. These are diagonally oriented and exhibit directionality from the top left to the bottom right. These are identified as projected stains/ patterns. Two of these stains have distinct flow patterns associated with them. There are also smaller sized stains (less than or equal to 2.0 X 5.0 mm) that exhibit the same directionality. The flow pattern (described above) has been altered leaving perimeter stains. There are three linear horizontal bloodstains extending from the flow pattern and to the right. It appears to be a wipe pattern. There are a few stains exhibiting directionality from the lower right side to the upper left side. There seems to be discontinuity in one of the projected stains. There is a defined straight edge, then a lack of blood followed by a stain exhibiting similar directionality as the larger stain. This is indicative of a void pattern. Above this, there is an area where the linear horizontal (wipe) bloodstains and projected stains overlap. It is unclear if there are additional patterns.
WTAUQ8-561	Summary: Projected pattern and a wipe pattern. There are three, relatively large approximately oval-shaped spatter stains in the image. They are oriented diagonally from top left to bottom right. The volume of blood in the two top most stains was sufficient to result in flow patterns distal to the stains and for the blood to pool along the bottom edges of both stains. The thin, linear, elongated and diagonally oriented streak-like stains are consistent with the deposition of relatively large blood drops onto a surface. All these features are consistent with this being a projected pattern (for example from an arterial spurt, although without more scene information, cast-off from a bloodied object swung almost parallel (but slightly towards) the vertical board is also a possibility). A wipe pattern consisting of three linear, parallel wipes, from left to right for approximately 8.5cm is present and from the presence of perimeter stain features, the wipe occurred after the blood of the spatter stains and flows had partially dried.
WUJTXA-560	The target displayed a PROJECTED PATTERN consisting of at least three wide stains that impacted in a left-to-right and downward direction. FLOW PATTERNS were present at the ends of the upper stains of the projected pattern. Three approximately parallel WIPE PATTERNS passed through the flow patterns and lower stain of the projected pattern in a left-to-right direction. A VOID was present near the bottom of the lower stain of the projected pattern, which interrupted the projected pattern and flow patterns.
WUKLVG-561	Item 5 represents a projected pattern of blood as there is a distinct volume of blood that was ejected under pressure. There is also a wipe pattern present as there is evidence of an altered bloodstain pattern resulting from an object moving through a pre-existing wet bloodstain.
WVEC2V-561	Projected pattern towards to the left-bottom, from which two flows set off. Projected and flows

TABLE 3: Recognition and Description

**Item 5, continued**

WebCode-Test	Detailed Pattern Description
	contain void and wipe: Three parallel wipes of 7-10 mm width -that occurred few minutes later. Due to the tapered edge of the upper wipe it comes from right hand; By the size it belongs to a woman.
WXJ6T9-560	A projected pattern is present along a diagonal from upper left to lower right, with flow patterns extending from this pattern. A wipe pattern moves left to right through the flow patterns and one area of the projected pattern. A void is present approximately 2/3 of the way down the photograph, interrupting the projected pattern and the flow patterns.
WXKWRG-560	It is a splash pattern follow by a wipe pattern on bottom. Splash pattern - bloodstain caused by the quantity or volume of liquid blood that falls on the surface. Wipe pattern - it occurs when an object moves through a preexisting bloodstain and it can ascertained the direction
WYEMVB-560	There is a flow pattern located towards the left side of the image. The flow has a downward appearance as indicated by the pooling of blood on the lower edges of the pattern. The flow pattern has apparent perimeter stains present adjacent to the wipe patterns mentioned below. There is a flow pattern located towards the center of the image. The flow has a downward appearance as indicated by the pooling of blood on the lower edges of the pattern. The flow pattern has apparent perimeter stains present adjacent to the wipe patterns mentioned below. There are three horizontal wipe patterns with an apparent left to right direction on the lower portion of the flow patterns. There appears to be a small amount of pooling on the two lower wipe patterns. There appears to be a void pattern at the lower portions of the flow patterns. There appears to be one flow pattern below this apparent void with apparent pooling on the lower portion of the stain. There are multiple spatter stains present on the image each with an apparent left to right downward trajectory.
X3Q232-561	Item 5 consists of 3 intersecting patterns that start at the upper left of the page and end at the approximate lower right of the page with a portion near the middle that has been altered. The pattern can be broken into top (upper left), middle, and bottom (lower right). The top portion of the pattern is a projected pattern with a connected flow pattern. There is also spatter and spines surrounding portions of the projected pattern. Many of the spatter stains were deposited on the vertical surface at angles less than 90 degrees and have directionality (traveling from the upper left toward the lower right). The spines present radiate out and away from the projected bloodstains. Since the surface is smooth foamboard, the spines are indicative that there was some impact velocity when the blood struck the vertical surface. The middle portion of the pattern consists of drips that make up the flow pattern portion and some of the surrounding spatter from the projected pattern. This portion of the stain has been altered by 3 wipe patterns made moving from left to right through the partially dried blood. There is visible skeletonization of the partially dried flow pattern and drops which indicates that the blood had begun to dry when the three wipes were made. The presence of the skeletonized stains indicates that the resulting pattern is the result of wipes and not swipes. Additionally, there is a skeletonized elliptical stain within the wipe pattern that does not seem to coincide with either the projected pattern above or the wipes and void below. The bottom of the pattern near the lower right corner of the page has been interrupted. The projected and flow patterns have been abruptly stopped at an approximate horizontal line and there is a linear vertical interruption of the adjacent flow pattern. This interruption in the pattern and the absence of blood in an otherwise continuous bloodstain is indicative of a void pattern. I am not able to determine the object that made the void pattern, but I am able to say that it has 2 straight edges on it.
X6VJDQ-561	The first pattern is a projected stain angling down and to the right with two stains in the upper left and one in the center. The lower portion of the upper stains show a flow pattern at the lower portions. Three wipe patterns (probably three fingers) from left to right go through the flow pattern of the upper two projected stains and the lower projected stain. A void is noted below the wipe pattern and interrupting the lower projected stain.
X8Z44B-560	There are large directional stains and smaller directional spatters going from the upper left, diagonally down towards the lower right corner. Flow patterns ran down from the larger stains. Three parallel wipe marks appeared to have been created when something moved from left to right through the flow patterns.

TABLE 3: Recognition and Description

**Item 5, continued**

WebCode-Test	Detailed Pattern Description
XCBGKA-560	Based on the choices provided, the following patterns were observed: A projected pattern with vertical flow was observed along the upper left portion of the foamboard and extended through the middle to the lower right of the foamboard. A wipe pattern was observed in the middle of the foamboard through some of the projected pattern. A void pattern was observed on the lower right portion of the foamboard through one of the projected stains.
XD7ZMB-560	1. Projected stains with satellite spatters and elongated spines located at the top left corner and central part of the foamboard. These large volume elliptical stains measured approximately 2 to 8 cm in size. They had an initial directionality from the top left to the bottom right of the foamboard, before being acted upon by gravity to flow vertically downwards. 2. A void located at the area where the two vertical flow patterns and one of the projected stains level off, at about 11.8 cm from the bottom of the foamboard. 3. A wipe pattern extended horizontally from the vertical part of the two flow patterns and across one of the projected stains, towards the right of the foam board. The wipe pattern resulted in the formation of perimeter stains at the vertical parts of the flow patterns.
XLHWPW-561	Cast off of few blood drops from left top corner to right bottom corner with flow pattern due to the gravity. Satellite stains are present also. There is a void at the bottom of the pattern. The lower part of the pattern was altered by three objects (could be fingers) by a horizontal movement from left to right resulting in a wipe pattern on the flow part and few drop and satellite stains.
XMGYJ8-560	The bloodstain is a projected pattern on a vertical surface which also exhibits the flow pattern due to gravity. The bloodstain has then been altered by a wipe pattern. The bottom of the stain shows a void due to the absence of blood, or an interruption in the continuous the stain.
XPH8LW-561	This is a flow pattern originated from bloodstains (relatively large amount of blood) deposited on a vertical surface in the left upper corner. A direction of flow originated from one of the stains was changed because of some reasons (e.g. moving a foamboard or because of surface structure of foamboard). There are also presented wipe patters starting from this flow. There are also visible stains, which shape suggest that they projected on the surface at very small angle, e.g. they could be a kind of satellites of stains from which a flows originate.
XRNRBH-560	3 splash patterns can be seen. 1 starting 50 mm from the top $\pm$ 15 mm from the left. The second 50 mm from the top and $\pm$ 6 mm from the left. The third is a bit obscured, it starts $\pm$ 165 mm from the top and $\pm$ 115 mm from the left. The flow pattern that resulted from the 2 upper splash patterns had time to dry as can be seen by the edge characteristics. A wipe pattern was created in the flow pattern, most likely by 3 fingers. The wipe pattern is from left to right through the flow patterns of the upper 2 splash patterns. The bottom 2 finger wipes continue through the 3rd splash pattern. A void can be seen across the whole image $\pm$ 202 mm from the top to $\pm$ 213 mm from the top. Some satellite spatter can be seen as well.
XY8VHK-560	The bloodstain pattern spans the diagonal of an area of $\sim$ 19cm square. Characteristics of projected bloodstains are observed with associated satellite stains and spines. Flow patterns continue off of the projected stains. Three parallel wipes, moving from the left to right from the viewer's perspective of the photograph, have altered the flow patterns and the lower projected bloodstain. There is a void area distinguishable by the linear edge characteristic of the lower edges of the flow patterns and the interruption of the lower projected stain which is also apparent by the linear edge characteristics which indicate the bounds of the void.
XZ3EKL-561	A projected pattern from top left to bottom right. A wipe pattern from left to right through the preexisting projected pattern consisting out of three areas of contact with the target surface. This is consistent with the fingers of a hand moving through the projected pattern.
Y4GL9X-560	A projected pattern exhibiting downward directionality and satellite spatter from the parent stains were noted. Due to the large volume of blood, flow patterns resulted. The flow patterns were altered with a wipe pattern. The wipe pattern disrupted the flow pattern, one of the parent stains and satellite spatter. A void is noted across the flow pattern and in one of the parent stains. This is due

TABLE 3: Recognition and Description

**Item 5, continued**

WebCode-Test	Detailed Pattern Description
	to the abrupt end of the flow pattern in a straight line and also the discontinuation followed by the continuation of the parent stain.
YR8VK4-561	There were oval shaped stains in upper left corner with edge disruption on lower right stains indicating a down and right directionality. There were some long, narrow stains on the right side of the pattern that appear to originate from 2 oval stains in upper left. Additionally on lower right of one of the oval shaped stains was a flow of blood going downward indicating the target was on a vertical surface during deposition as stated in the label. Three linear patterns disrupted the flow pattern. These patterns are directional from left to right as the object has pulled blood from the flow pattern and moved it across the target. Perimeter stains were left on the furthest left flow pattern. Additionally, an object is blocking blood at the bottom of the image creating a void. There is an oval stain near the bottom with similar directionality as the two above however travel appears to stop at a defined line on the image and then continues approximately 1 cm below and to the right. The patterns observed are a projected bloodstain pattern with flow and three wipe patterns through the flow pattern.
YUUKQ3-560	Present is a projected pattern at the upper left, with directionality going towards the bottom right. The projected pattern includes flow going towards the ground. At the bottom portion of the pattern, there are three wipe patterns going through the flow from the left to the right. A void is also present across the bottom of the pattern, below the wipe patterns.
YWY32Q-560	The primary parent stain appears to be a transfer directionally from the upper left to the lower right. There appears to be some cast off from the source of the parent stain directionally to the lower right. A flow pattern then begins downward towards gravity and is interrupted by a wipe pattern from left to right horizontally.
YXA6PB-560	This is a bloodstain exhibiting a flow pattern, possibly from projected blood and part of a projected pattern. It is an altered stain with a wipe pattern.
Z4E29B-560	I recognize a complex pattern consisting of a projected pattern which developed into a flow pattern which was interrupted by a wipe pattern followed by a void.
ZF9GXC-561	There are three kinds of projected patterns on the foamboard, one is at lower right and the others are at upper left side. All of them are from upper left to lower right. In the middle area, the blood flows down due to gravity, which can be referred as flow pattern. It is clear to see wipe patterns are also at middle area, the direction of them are from left to right. Finally, the bottom area of blood pattern is voided.
ZGFW6H-561	Item 5 shows probably projected stains. There are also flow pattern, before probably a hand/fingers "changing" flow/wiping through wet blood. There are some satellite stain in the upper region/area. In the lower area probably we can see a void.
ZHAM9B-560	Two projected bloodstain patterns originate in the upper left corner. A third projected pattern is seen toward the center of the photograph. Directionality of the patterns indicates their origin is from the left and slightly downward. Passive flow can be seen traveling in the same relative orientation of the originating projected patterns. The passive flow patterns change direction and travel downward until they stop abruptly, indicating the presence of an object and a resulting void. The third projected pattern appears to have been partially blocked by an object and a void area is visible. Three wipe patterns, possibly due to fingers or a similar object, are visible showing movement from left to right.
ZHHH66-560	The results and conclusions provided in this statement form my expert opinion, which is based on my scientific knowledge, experience and training. On the wall were three large oval blood stains which were a projected pattern. This type of pattern occurs when a volume of blood has been ejected under pressure. These most likely originated from a breached artery. Associated with these large stains were downward flows of blood. There were some small directional blood stains near the large oval blood stains. These were satellite stains where small amounts of blood had broken

TABLE 3: Recognition and Description

**Item 5, continued**

WebCode-Test	Detailed Pattern Description
	<p>away from the parent stain. There was a wipe pattern through one of the flows and one of the large oval stains. A wipe pattern is when blood staining is altered from an object moving through a pre-existing blood stain. The characteristics of this wipe indicated it was likely to have been three fingers wiping through the pattern. There was a void below the lower oval where no blood was present. This indicates an object was present in this area and preventing blood being deposited. It had subsequently been removed. To the right of the main blood stains were small spots of blood that indicated an upward directionality. That is that the blood was moving in an upward and right to left direction when they were deposited on the wall.</p>
ZPDNDC-560	<p>1. Splash Pattern - Bloodstain pattern resulting from a volume of liquid blood that falls or spills on to a surface. 2. Flow Pattern - A bloodstain pattern resulting from the movement of a volume of blood on a surface due to gravity or movement of the target. 3. Wipe Pattern - An altered bloodstain pattern resulting from an object moving through a pre existing wet bloodstain. 4. Void - An absence of blood in an otherwise continuous bloodstain or bloodstain pattern.</p>
ZQ8EJQ-561	<p>A projected pattern is observed in the image, with directionality from the upper left quadrant to the lower right quadrant. A projected pattern is a bloodstain pattern resulting from the ejection of a volume of blood under pressure. Directionality is the characteristic of a bloodstain that indicates the direction blood was moving at the time of deposition. Multiple flow patterns are observed in the image, with downward directionality. A flow pattern is a bloodstain pattern resulting from the movement of a volume of blood on a surface due to gravity or movement of the target. Directionality is the characteristic of a bloodstain that indicates the direction blood was moving at the time of deposition. A wipe pattern is observed in the lower half of the image, with lateral motion from the left to the right. A wipe pattern is an altered bloodstain pattern resulting from an object moving through a preexisting wet bloodstain. A void is observed in the lower half of the image, below the wipe pattern. A void is an absence of blood in an otherwise continuous bloodstain or bloodstain pattern.</p>
ZTY3P2-561	<p>A projected pattern was found with bloodstains travelling diagonally from top left to lower right of the photograph. Flow patterns were observed at the lower edges of two of those projected bloodstains and followed by three horizontal wipe patterns on the flow patterns. A void pattern possibly caused by the presence of an object with a straight top edge was located on the lower region of the photograph below the flow and wipe patterns.</p>



# Additional Comments

TABLE 4

WebCode-Test	Additional Comments
2VZPGV-560	Section 1 not completed because this analysis is not performed at this laboratory.
36ZLRC-560	Blood projected to a vertical plane (wall) and due to its volume, it start to flow. As flowing an object moved through the flow to the side creating a wipe. Towards the bottom is an object that create a void that prevent the flow on the wall.
3XE7G-561	Please note that part 1 Angle of Impact was not completed, as we do not do this as part of our routine casework, therefore section 1 is not applicable to our organisation.
44NAP2-560	Laboratory does not perform analysis for Item 1.
4DLED8-560	The following statements would be included on 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.
4G72CL-561	Item 3 is a very unusual stain pattern. Consistent with a possible drip trail, except for the size of the stains and that this is not an option to select. Some linear distribution is apparent, however there is not the continued elongation that would be expected with a cast-off stain. Experimentation in the laboratory found a similar pattern being produced when bloody fingers were dipped in blood and moved toward the horizontal target at a high rate of speed and then stopped above the target. Therefore, I chose cessation cast-off as the pattern based on the choices available. A larger overall view of the stain in context of a scene would have been beneficial and possible in real casework.
7QTTYQ-560	Item 1-1 not analyzed. This analysis is not performed at our lab.
8C7ZNP-560	Item 1 not examined...analysis not performed at this lab.
8GGYWA-560	The CTS was not difficult. It was a good refresher since we last did the bloodstain analysis during the course we attended.
8LBWLZ-560	The three large stains do not have recognizable features corresponding to a known object, however the detail available most closely resembles a form of transfer stain.
AMDGM6-560	Item 3 has an additional Drip Trail pattern (Blood into Blood = Drip Pattern)
BEEB7A-561	Intermixing of stains also visible - due to associated flow disturbed by wipe pattern. Typical pattern associated with arterial spurting. Edge characteristics
BJDM6U-560	Our lab does not perform Section 1 (Angle of Impact Determination) so it was not done.
D96WD4-560	Bloodstain Pattern Analysis is an in depth evaluation of bloodstain patterns found in a given scene. To reach a conclusion the analyst considers a number of factors related to each pattern or stain, including but not limited to size, shape, number, dispersion, volume, and location.
DKXD6P-560	An overall photo should accompany the close-up photos for better clarification of patterns in item 3.
EE7G2K-561	The reported values of the width and length for the angle of impact determination stains were made from direct measurement from a 1:1 photograph. The reported values of the angle for the angle of impact determination stains were from the average of the angles calculated from the 1:1 measurement and from the angles calculated from measuring an ellipse graphically overlaid on an enlargement of the stains.
FAPKNU-560	Item 3 shows some similarity to a drip trail on the horizontal plane where the individual stains which don't show direction.



TABLE 4

WebCode-Test	Additional Comments
FQB9XP-560	Item 1 not examined - this lab does not perform this type of analysis.
H27ZGZ-561	In my opinion, in the item #3 there are two possible mechanisms of deposition that explain the pattern.
H94VBR-560	The photograph in Item 3 provides a limited view of the staining present. Additional staining that could provide information relevant to the mechanism of deposition may (or may not) be present outside the viewable area.
HJQHWF-560	Section 1 - Angle of Impact not completed - lab does not perform this analysis
HMP624-560	Please note that during my laboratory and scene work I have never found it necessary to carry out the calculation for angle of impact. Visual assessment and interpretation has been sufficient.
K7D78Q-560	1. Projected pattern 2. Flow pattern 3. Wipe pattern 4. Void 5. Satellite stains
LB33AL-560	Item #3: Based on the limited surface area, in casework these stains may be classified as linear spatter patterns; however, this less specific choice was not provided as an option.
LNNMNN-560	Concerning item 2 it was a bit difficult to choose only a single pattern type as an impact has caused the pressure which has caused the projected pattern
M398XA-560	Section 1 not applicable to the testing performed at the [Laboratory].
MLFM7N-560	A few sharp ellipses towards the right of the complex pattern is indicative of a cast off in opposite direction of the parent project stain.
N28UQ8-561	The photos of items 2 and 3 are not good, especially item 3. The photos really must contain the entire pattern. It is very apparent much more exists from these patterns which is not present within the supplied photographs.
NYL3QX-560	Section 1 of this test has not been completed as this is something we do not carry out as regular practice during blood pattern analysis
P6LZET-560	[From Table 1 - Angle of Impact Determination: "**Rounded up to nearest hundreth."]
Q464NE-560	Item 1-1 was not examined per internal instructions/lab does not perform this analysis.
RB37CC-561	Regarding item 3: In order to make thorough and more conclusive remarks regarding the pattern type presented in item 3 it would be preferable to see the pattern/s in their entirety. Additionally, there appears to be more than a single event/pattern present and while one of these patterns appears to be cast-off, it is not possible to make a definitive conclusion regarding the remaining pattern/s in this image.
RG8YFE-561	[From Table 1 - Angle of Impact Determination: Width (mm), Length (mm) "From 1:1 enlargement"; Angle of Impact (degrees) "Avg."]
RR7Q2M-561	Different terminology for the description of the bloodstain that was teach on course from presenter [Company] and then CTS provided suggested terminology caused uncertainty in the correct description to be used in this CTS-test for the correct analysis of the pattern types.
TJQ7HM-561	Section 1 was calculated using a Vernier Caliper and calculator. No other equipment was available to be used.
U8BV6G-560	The stains were identified as 1-3 for reporting purposes.
V32T68-560	For pattern #3, drip trail was also considered, however the pattern was described as cast-off due to the relatively small size of the stains, the linearity of stains within the pattern, and the directionality of many stains within the pattern.

TABLE 4

WebCode-Test	Additional Comments
VAXUX7-561	The volumes used for the angle of impact are too small. Item 3 was most consistent with a drip trail. It would be nice to have a 2D or 3D item.
VYWE7F-560	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.
WLQQJ6-560	The angle of impact was determined for this test however, the measurements and subsequent determination are not typically done in casework. Regarding items 2, 3, and 4, the entire patterns were not observed since it appears that stains continue beyond the photo or scale boundaries.
X3Q232-561	The angle of impact exercise should be reported as approximate and not as an absolute angle since we are calculating an estimate. The fact that the patterns are not complete in Items 2, 3, and 4 complicates the pattern interpretation. Since only one pattern is to be selected, not having all of the information could lead to an incorrect conclusion. Especially if the part of the pattern that is cut off could assist with the identification of a pattern. Item 5 looks like an artificial pattern and it is difficult to discern what patterns are being represented vs. how the pattern were made. I often see the artificial construction of the pattern more than anything else.
X8Z44B-560	Item 2 appears as though there was a small pool of blood and then something could have impacted it creating the radiating satellite stains. There is no definitive detail in the center of the stain indicating what might have contacted the stain. It isn't a classic impact spatter. There are some odd curved stained areas that I could not account for. Item 3 looks like it could be a drip stain or cast off. Essentially a drip stain is cast off but gravity is considered the major force causing the blood to fall from the object. There is some minor directionality with some of the stains making me think that it may be cast off.
XCBGKA-560	The parallel patterns in item #3 may be mischaracterized as a drip trail as the individual stains do not appear to have a change in impact angle.
Y4GL9X-560	Item 1-1 was not examined due to in house instructions.
YXA6PB-560	Angles of impacts would have been reported as follows: A $37^{\circ} \pm 5^{\circ}$ , B $15 \pm 1^{\circ}$ , C $17 \pm 1^{\circ}$ , D $27 \pm 0.5^{\circ}$ , E $16 \pm 1^{\circ}$ .
ZPDNDC-560	The bloodstain pattern on Item 3, possibly a bloody object or hand was moving in a different direction while dripping forming a drip trail, that also in its pattern shows similarities of a cast-off like pattern. [From Table 1 - Angle of Impact Determination: Stain D " $36^{\circ}.8=37^{\circ}$ "]

# Appendix: Data Sheet

Collaborative Testing Services ~ Forensic Testing Program

## **Test No. 16-560: Bloodstain Pattern Analysis**

DATA MUST BE RECEIVED BY August 22, 2016 TO BE INCLUDED IN THE REPORT

Participant Code:

WebCode:

### **Accreditation Release Statement**

CTS submits external proficiency test data directly to ASCLD/LAB, ANAB, and/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 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 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 piece of white foamboard 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		

**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 foamboard in the vertical 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 22, 2016* 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  
www.ctsforensics.com

<p>Participant Code: ONLINE DATA ENTRY: <a href="http://www.cts-portal.com">www.cts-portal.com</a> FAX: +1-571-434-1937 MAIL: Collaborative Testing Services, Inc. P.O. Box 650820 Sterling, VA 20165-0820 USA</p>
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**Please return all pages of this data sheet.**

## Collaborative Testing Services - Forensic Testing Program

**RELEASE OF DATA TO ACCREDITATION BODIES**

The following Accreditation Releases will apply only to:

Participant Code:

WebCode:

for Test No. **16-560: Bloodstain Pattern Analysis**

This release page must be completed and received by **August 22, 2016** to have this participant's submitted data included in the reports forwarded to the respective Accreditation Bodies.

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

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

**\*\* 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) \_\_\_\_\_

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

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

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

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

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## 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.
<b>Flow Pattern</b>	A bloodstain pattern resulting from the movement of a volume of blood on a surface due to

## Test No. 16-560 &amp; 16-561 Data Sheet, continued

## Appendix: Page 2 of 2

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