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FORENSIC TESTING PROGRAM

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Bloodstain Pattern Analysis
Test No. 21-5601/5 Summary Report

Each sample pack consisted of digitally produced photographs (21-5601) or directly downloadable digital images (21-5605) of bloodstains for Angle of Impact Determination and Pattern Description. Data were returned from 194 participants: 77 for 21-5601 and 117 for 21-5605 and are compiled into the following tables:

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: Single Pattern Recognition (Items 2, 3, and 4), and Pattern Description: Recognition and Description (Item 5) provided in photographic (5601) or digital download (5605) form. Participants were requested to determine the angle of impact of Stains A - E (Item 1), identify the pattern for Items 2 - 4, and write a brief description of the pattern(s) for Item 5. A digital download supplemental of the entire target image for Items 2-5 was provided to all participants as a courtesy.

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". Digital download media were provided as a zipped file on the CTS portal.

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

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

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

Stain	Preparation Angle
A	10.9°
B	16.9°
C	10.9°
D	22.0°
E	29.0°

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 mixture of saliva and blood in a weigh boat was held approximately 12 inches from a vertical target. Compressed air was sprayed across the surface of the mixture in the direction of the target.

Pattern 3: A dropper was filled with blood and held approximately 36 inches above a horizontal target. Several drops of blood were released in the same general area onto the target.

Pattern 4: A sleeve was dipped and coated in blood along its outer side. While being worn, the sleeve was pressed against the vertical target, moved left to right and upwards, then lifted away.

Pattern 5: A small volume of blood was deposited onto a horizontal target. Using a closed fist, the blood was struck. A dropper was used to deposit several individual drops of blood across the target surface in a linear fashion. When partially dry, one of these drops was passed through with a rag from left to right.

Summary Comments

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 directly downloadable digital images. A digital supplemental that showed the entirety of the target substrate for each item in the Pattern Description section (Items 2-5) was also made available to all participants via the customer portal. Use of these supplemental images was optional and meant to bolster participants' confidence in their conclusions.

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 ±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). For some participants, significantly discrepant length/width measurements provided for magnified drops were excluded from calculations while their angle was not; this is due to an appropriate length/width ratio being achieved to result in an angle finding within the ±3 STD range. The Grand Mean and Standard Deviation are shown below, based on each Calculated Angle.

Stain	Preparation Angle	Grand Mean	Standard Deviation
A	10.9°	10.72°	1.49
B	16.9°	16.99°	1.40
C	10.9°	10.64°	0.94
D	22.0°	20.27°	1.64
E	29.0°	26.77°	1.83

Pattern Description

The pattern description was divided into two separate parts. Part one consisted of three patterns (one vertical target of painted drywall, one horizontal target of vinyl tile, one vertical target of sheeted plywood), and participants were asked to select the single pattern type that best described the pattern contained in the image. The second part of the pattern description section consisted of one horizontal target of vinyl tile, 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, 95.9% of participants reported "Expiration Pattern." For Item 3, 95.9% of participants reported "Drip Pattern." For Item 4, 72.0% of participants reported "Swipe", with 27.6% reporting "Transfer Stain;" a swipe is a type of transfer stain.

For part two, Item 5, the majority of participants reported the following distinct pattern types: 1) Drip Trail, with directionality of travel unable to be determined. 2) Wipe, occurring on one of the drip trail stains in a left to right directionality. 3) Impact Pattern, supported by the acute spining of the satellite stains surrounding the parent stain. This stain was also classified as a splash pattern or an expiration pattern by some participants. Finally, many participants also documented the patterns of satellite staining, void, and perimeter stain/skeletonization associated with the previous actions.

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: $\sin \theta$ = width/length, where θ 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			
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	*CalcAng*
22R92H-5605	1.20	-0.16	-1.05	7.60	0.19	0.25	9.00	-1.73	-1.14	9.08
22T9WB-5601	1.22	-0.14	-0.92	6.89	-0.52	-0.70	10.20	-0.53	-0.35	10.20
29QVQW-5605	1.50	0.14	0.93	7.00	-0.41	-0.55	12.40	1.67	1.11	12.37
2DY9KN-5605	1.40	0.04	0.27	6.00	-1.41	-1.90	13.00	2.27	1.50	13.49
2GYJFN-5601	1.50	0.14	0.93	7.00	-0.41	-0.55	12.40	1.67	1.11	12.37
2QTD22-5601	1.20	-0.16	-1.05	6.50	-0.91	-1.23	10.60	-0.13	-0.08	10.64
2V3VX9-5605	1.30	-0.06	-0.39	6.50	-0.91	-1.23	11.50	0.77	0.51	11.54
32KLW9-5601	1.40	0.04	0.27	6.80	-0.61	-0.82	11.90	1.17	0.78	11.88
36LPQG-5605	1.38	0.02	0.14	8.44	1.03	1.38	9.40	-1.33	-0.88	9.41
38A2N2-5605	1.30	-0.06	-0.39	7.30	-0.11	-0.15	10.00	-0.73	-0.48	10.26
3EVUY2-5605	1.40	0.04	0.27	8.80	1.39	1.86	9.15	-1.58	-1.04	9.15
3KKCDC-5605	1.40	0.04	0.27	7.20	-0.21	-0.29	11.20	0.47	0.31	11.21
3M4L7A-5605	1.39	0.03	0.20	7.95	0.54	0.72	10.27	-0.46	-0.30	10.07
3NJPZ3-5605	1.40	0.04	0.27	6.80	-0.61	-0.82	12.00	1.27	0.84	11.88
3NZ446-5605	1.54	0.18	1.19	7.59	0.18	0.24	12.00	1.27	0.84	11.71
3WTEFL-5601	1.45	0.09	0.60	3.25	-4.16	-5.59 X	12.89	2.16	1.43	26.50 X
427EDD-5605	1.30	-0.06	-0.39	8.00	0.59	0.79	9.35	-1.38	-0.91	9.35
47YFC7-5605	1.42	0.06	0.40	8.58	1.17	1.57	10.00	-0.73	-0.48	9.53
487ZWZ-5605	1.00	-0.36	-2.36	8.00	0.59	0.79	7.20	-3.53	-2.33	7.18

TABLE 1

Stain A, continued

WebCode-Test	Width			Length			Angle			
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	*CalcAng*
48R8PC-5605	1.40	0.04	0.27	8.50	1.09	1.46	9.48	-1.25	-0.83	9.48
4AF228-5605	1.20	-0.16	-1.05	6.80	-0.61	-0.82	10.00	-0.73	-0.48	10.16
4BPTC9-5605	1.40	0.04	0.27	8.50	1.09	1.46	9.00	-1.73	-1.14	9.48
4GF3L8-5605	1.47	0.11	0.73	7.21	-0.20	-0.27	11.80	1.07	0.71	11.76
4KT793-5601	1.30	-0.06	-0.39	8.00	0.59	0.79	9.35	-1.38	-0.91	9.35
6HMZ9M-5605	1.00	-0.36	-2.36	6.00	-1.41	-1.90	9.60	-1.13	-0.75	9.59
6MW739-5605	1.50	0.14	0.93	7.50	0.09	0.12	11.50	0.77	0.51	11.54
6NCHNK-5601	1.50	0.14	0.93	8.50	1.09	1.46	10.16	-0.57	-0.38	10.16
6NCHQ6-5605	1.60	0.24	1.58	8.80	1.39	1.86	10.50	-0.23	-0.15	10.48
6R8D6X-5605	1.50	0.14	0.93	6.80	-0.61	-0.82	12.70	1.97	1.31	12.74
6RBTKK-5601	1.40	0.04	0.27	7.20	-0.21	-0.29	11.20	0.47	0.31	11.21
6ZNRCA-5605	1.00	-0.36	-2.36	7.50	0.09	0.12	7.66	-3.07	-2.03	7.66
77NQZ6-5605	1.40	0.04	0.27	7.60	0.19	0.25	10.60	-0.13	-0.08	10.62
79CZCQ-5605	1.30	-0.06	-0.39	8.00	0.59	0.79	9.00	-1.73	-1.14	9.35
79RB3J-5601	1.40	0.04	0.27	9.00	1.59	2.13	9.00	-1.73	-1.14	8.95
7AB7TK-5601	1.40	0.04	0.27	8.20	0.79	1.06	9.83	-0.90	-0.59	9.83
7AM3XP-5605	1.30	-0.06	-0.39	6.00	-1.41	-1.90	13.00	2.27	1.50	12.51
7L2Z6E-5601	1.40	0.04	0.27	7.40	-0.01	-0.02	10.90	0.17	0.11	10.91
7WYXQT-5605	1.50	0.14	0.93	8.30	0.89	1.19	10.40	-0.33	-0.22	10.41

TABLE 1

Stain A, continued

WebCode-Test	Width			Length			Angle			
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	*CalcAng*
7X9UAC-5605	1.40	0.04	0.27	6.80	-0.61	-0.82	11.90	1.17	0.78	11.88
7XD84Z-5601	1.40	0.04	0.27	6.90	-0.51	-0.69	11.70	0.97	0.64	11.71
82NUUB-5601	1.40	0.04	0.27	7.40	-0.01	-0.02	10.87	0.14	0.09	10.91
84D7RV-5601	1.47	0.11	0.73	7.72	0.31	0.41	11.01	0.28	0.19	10.98
8MU8NH-5605	1.30	-0.06	-0.39	6.50	-0.91	-1.23	11.50	0.77	0.51	11.54
8PE9GJ-5601	1.40	0.04	0.27	7.00	-0.41	-0.55	11.54	0.81	0.54	11.54
8UBLT9-5605	1.40	0.04	0.27	7.40	-0.01	-0.02	11.00	0.27	0.18	10.91
93GYXH-5605	1.00	-0.36	-2.36	7.00	-0.41	-0.55	8.21	-2.52	-1.67	8.21
993Z78-5601	1.30	-0.06	-0.39	6.20	-1.21	-1.63	12.10	1.37	0.91	12.10
9DFQNV-5605	1.51	0.15	0.99	9.23	1.82	2.44	9.40	-1.33	-0.88	9.42
9DJBF6-5601	1.30	-0.06	-0.39	7.80	0.39	0.52	9.60	-1.13	-0.75	9.59
9EV8MV-5605	1.70	0.34	2.24	7.20	-0.21	-0.29	14.00	3.27	2.17	13.66
9M4LPW-5601	1.30	-0.06	-0.39	6.00	-1.41	-1.90	12.50	1.77	1.17	12.51
9T7WDG-5605	1.00	-0.36	-2.36	5.00	-2.41	-3.24 X	11.50	0.77	0.51	11.54
9VHMQR-5605	1.40	0.04	0.27	6.80	-0.61	-0.82	12.00	1.27	0.84	11.88
A24XG2-5605	1.20	-0.16	-1.05	7.00	-0.41	-0.55	9.90	-0.83	-0.55	9.87
AAW7Z8-5601	1.40	0.04	0.27	6.30	-1.11	-1.49	12.84	2.11	1.40	12.84
AL8L6Q-5605	1.50	0.14	0.93	7.50	0.09	0.12	11.80	1.07	0.71	11.54
AM2AML-5605	1.40	0.04	0.27	7.20	-0.21	-0.29	11.00	0.27	0.18	11.21

TABLE 1

Stain A, continued

WebCode-Test	Width			Length			Angle			
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	*CalcAng*
AVVCRJ-5605	1.40	0.04	0.27	7.20	-0.21	-0.29	11.20	0.47	0.31	11.21
AVWAZT-5601	1.52	0.16	1.06	6.94	-0.47	-0.63	12.70	1.97	1.31	12.65
AYWKVT-5601	1.37	0.01	0.07	8.04	0.63	0.84	9.80	-0.93	-0.61	9.81
BFD476-5601	1.30	-0.06	-0.39	6.30	-1.11	-1.49	11.90	1.17	0.78	11.91
BGBCFB-5601	1.40	0.04	0.27	7.20	-0.21	-0.29	11.00	0.27	0.18	11.21
BPNCPR-5601	1.40	0.04	0.27	7.60	0.19	0.25	10.60	-0.13	-0.08	10.62
BUXLYA-5605	1.40	0.04	0.27	8.20	0.79	1.06	9.80	-0.93	-0.61	9.83
BYTAG2-5605	1.31	-0.05	-0.32	6.35	-1.06	-1.43	12.00	1.27	0.84	11.91
C2UPD7-5605	1.49	0.13	0.86	7.20	-0.21	-0.29	11.90	1.17	0.78	11.94
C2Y38U-5601	1.34	-0.02	-0.13	7.30	-0.11	-0.15	10.60	-0.13	-0.08	10.58
C37FT3-5605	1.07	-0.29	-1.90	5.46	-1.95	-2.62	11.30	0.57	0.38	11.30
C4Y9NK-5601	1.30	-0.06	-0.39	7.10	-0.31	-0.42	10.60	-0.13	-0.08	10.55
CCCF7A-5605	1.40	0.04	0.27	7.20	-0.21	-0.29	11.00	0.27	0.18	11.21
CCV2YZ-5605	2.11	0.75	4.94 X	10.52	3.11	4.18 X	11.60	0.87	0.58	11.57
CFW8D7-5605	1.50	0.14	0.93	7.30	-0.11	-0.15	11.50	0.77	0.51	11.86
CTL769-5601	1.00	-0.36	-2.36	8.00	0.59	0.79	7.18	-3.55	-2.35	7.18
CXFXGC-5605	1.30	-0.06	-0.39	8.18	0.77	1.03	9.14	-1.59	-1.05	9.14
CZY6RR-5605	1.00	-0.36	-2.36	8.00	0.59	0.79	7.00	-3.73	-2.47	7.18
D72FFC-5601	1.00	-0.36	-2.36	7.00	-0.41	-0.55	8.00	-2.73	-1.81	8.21

TABLE 1

Stain A, continued

WebCode-Test	Width			Length			Angle			
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	*CalcAng*
DBGWZ3-5605	1.26	-0.10	-0.65	7.31	-0.10	-0.14	9.93	-0.80	-0.53	9.93
DCE6B8-5605	1.20	-0.16	-1.05	8.00	0.59	0.79	8.60	-2.13	-1.41	8.63
DFQ734-5605	1.45	0.09	0.60	8.43	1.02	1.37	9.90	-0.83	-0.55	9.90
DK36KP-5601	1.56	0.20	1.32	7.03	-0.38	-0.51	12.80	2.07	1.37	12.82
DV4PMH-5601	1.17	-0.19	-1.24	9.02	1.61	2.16	7.45	-3.28	-2.17	7.45
EF7VPG-5605	1.00	-0.36	-2.36	5.10	-2.31	-3.11 X	11.31	0.58	0.39	11.31
EF7XG8-5605	1.30	-0.06	-0.39	6.40	-1.01	-1.36	11.80	1.07	0.71	11.72
ENKLDU-5605	1.45	0.09	0.60	6.91	-0.50	-0.68	12.00	1.27	0.84	12.11
EQPCHN-5605	1.20	-0.16	-1.05	6.00	-1.41	-1.90	12.00	1.27	0.84	11.54
FGUUGK-5605	1.40	0.04	0.27	8.40	0.99	1.33	9.60	-1.13	-0.75	9.59
FW7AGV-5605	1.50	0.14	0.93	8.40	0.99	1.33	10.28	-0.45	-0.30	10.29
FW83GN-5605	1.50	0.14	0.93	7.50	0.09	0.12	11.50	0.77	0.51	11.54
FZ7KDV-5605	1.33	-0.03	-0.19	6.63	-0.78	-1.05	11.57	0.84	0.56	11.57
G2FRFN-5605	1.30	-0.06	-0.39	8.20	0.79	1.06	9.00	-1.73	-1.14	9.12
G477LD-5605	1.60	0.24	1.58	8.20	0.79	1.06	11.00	0.27	0.18	11.25
GBPAV2-5601	1.50	0.14	0.93	8.94	1.53	2.05	9.65	-1.08	-0.71	9.66
GDRARR-5605	1.30	-0.06	-0.39	7.50	0.09	0.12	10.00	-0.73	-0.48	9.98
GMZKJQ-5601	1.40	0.04	0.27	7.80	0.39	0.52	10.34	-0.39	-0.26	10.34
GP4DHV-5605	23.90	22.54	148.25X	105.30	97.89	131.54X	13.10	2.37	1.57	13.12

TABLE 1

Stain A, continued

WebCode-Test	Width			Length			Angle			
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	*CalcAng*
GT4NDV-5605	1.80	0.44	2.90	8.59	1.18	1.58	12.10	1.37	0.91	12.10
GY9MMZ-5601	1.40	0.04	0.27	6.50	-0.91	-1.23	12.40	1.67	1.11	12.44
HN7K23-5605	1.50	0.14	0.93	8.00	0.59	0.79	10.80	0.07	0.05	10.81
HTHLTZ-5605	1.00	-0.36	-2.36	8.00	0.59	0.79	7.00	-3.73	-2.47	7.18
HW3JA4-5605	1.50	0.14	0.93	6.20	-1.21	-1.63	14.00	3.27	2.17	14.00
J2AACA-5605	1.50	0.14	0.93	7.40	-0.01	-0.02	11.70	0.97	0.64	11.70
JEWGAB-5601	1.40	0.04	0.27	7.70	0.29	0.39	10.40	-0.33	-0.22	10.48
JQALEK-5601	1.50	0.14	0.93	7.00	-0.41	-0.55	12.40	1.67	1.11	12.37
K8VHGZ-5601	1.30	-0.06	-0.39	7.80	0.39	0.52	10.00	-0.73	-0.48	9.59
K9RXNQ-5605	1.30	-0.06	-0.39	7.30	-0.11	-0.15	10.30	-0.43	-0.28	10.26
KDV4ZM-5605	1.40	0.04	0.27	6.80	-0.61	-0.82	12.00	1.27	0.84	11.88
KFA9XK-5601	1.40	0.04	0.27	7.30	-0.11	-0.15	11.10	0.37	0.25	11.06
KHRPTB-5601	1.50	0.14	0.93	7.40	-0.01	-0.02	11.70	0.97	0.64	11.70
LBPY7Y-5601	1.40	0.04	0.27	6.80	-0.61	-0.82	12.00	1.27	0.84	11.88
LLPK4X-5605	1.52	0.16	1.08	8.13	0.72	0.96	10.80	0.07	0.05	10.81
LNBFTB-5605	1.30	-0.06	-0.39	7.90	0.49	0.66	9.47	-1.26	-0.83	9.47
LYUUTT-5605	1.40	0.04	0.27	7.50	0.09	0.12	10.80	0.07	0.05	10.76
M4LDC3-5605	1.40	0.04	0.27	6.80	-0.61	-0.82	11.90	1.17	0.78	11.88
M9X3DY-5601	1.20	-0.16	-1.05	8.40	0.99	1.33	8.00	-2.73	-1.81	8.21

TABLE 1

Stain A, continued

WebCode-Test	Width			Length			Angle			
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	*CalcAng*
MC2XYM-5605	1.40	0.04	0.27	6.50	-0.91	-1.23	12.40	1.67	1.11	12.44
MH7THM-5605	1.40	0.04	0.27	6.30	-1.11	-1.49	13.00	2.27	1.50	12.84
MTMJGR-5605	1.00	-0.36	-2.36	7.00	-0.41	-0.55	8.20	-2.53	-1.67	8.21
MVT338-5601	1.00	-0.36	-2.36	8.00	0.59	0.79	7.18	-3.55	-2.35	7.18
N6EM3X-5601	1.51	0.15	0.99	6.97	-0.44	-0.59	12.50	1.77	1.17	12.51
NDPNNX-5605	1.40	0.04	0.27	6.40	-1.01	-1.36	12.60	1.87	1.24	12.64
NGRQ89-5605	1.50	0.14	0.93	7.50	0.09	0.12	12.00	1.27	0.84	11.54
NJTUWA-5605	1.10	-0.26	-1.70	7.00	-0.41	-0.55	9.00	-1.73	-1.14	9.04
NLFJCF-5605	1.50	0.14	0.93	7.60	0.19	0.25	11.40	0.67	0.44	11.38
NMT336-5601	1.47	0.11	0.73	7.01	-0.40	-0.54	12.10	1.37	0.91	12.10
NTGN97-5601	1.20	-0.16	-1.05	7.00	-0.41	-0.55	9.90	-0.83	-0.55	9.87
P2WMKW-5605	1.50	0.14	0.93	7.00	-0.41	-0.55	12.40	1.67	1.11	12.37
P69NCU-5605	1.44	0.08	0.53	6.80	-0.61	-0.82	12.30	1.57	1.04	12.23
PAP26U-5605	1.35	-0.01	-0.06	8.46	1.05	1.41	9.18	-1.55	-1.02	9.18
PFQBCM-5601	1.30	-0.06	-0.39	7.10	-0.31	-0.42	10.60	-0.13	-0.08	10.55
PN8PHY-5601	1.40	0.04	0.27	8.00	0.59	0.79	10.00	-0.73	-0.48	10.08
PPE8DN-5605	0.33	-1.03	-6.77 X	1.67	-5.74	-7.72 X	11.00	0.27	0.18	11.40
PV2YKG-5601	1.58	0.22	1.45	8.19	0.78	1.04	11.10	0.37	0.25	11.12
PZYDAR-5601	1.30	-0.06	-0.39	7.00	-0.41	-0.55	10.70	-0.03	-0.02	10.70

TABLE 1

Stain A, continued

WebCode-Test	Width			Length			Angle			
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	*CalcAng*
Q993RW-5601	1.50	0.14	0.93	6.00	-1.41	-1.90	14.00	3.27	2.17	14.48
Q9LN8Z-5605	1.40	0.04	0.27	7.30	-0.11	-0.15	11.00	0.27	0.18	11.06
QBEPZU-5605	1.50	0.14	0.93	5.80	-1.61	-2.17	15.00	4.27	2.83	14.99
QTU2QZ-5605	1.40	0.04	0.27	6.24	-1.17	-1.58	13.00	2.27	1.50	12.97
QVKZ6X-5601	1.20	-0.16	-1.05	8.00	0.59	0.79	8.60	-2.13	-1.41	8.63
QVKZ8J-5605	1.42	0.06	0.40	7.20	-0.21	-0.29	11.00	0.27	0.18	11.37
R4A7HW-5605	1.50	0.14	0.93	6.70	-0.71	-0.96	12.90	2.17	1.44	12.94
RFLG6L-5605	1.50	0.14	0.93	9.00	1.59	2.13	9.60	-1.13	-0.75	9.59
RGF7AF-5601	1.40	0.04	0.27	7.50	0.09	0.12	10.80	0.07	0.05	10.76
RLNRQK-5601	1.00	-0.36	-2.36	7.00	-0.41	-0.55	8.20	-2.53	-1.67	8.21
RPNVPY-5601	1.40	0.04	0.27	8.40	0.99	1.33	9.59	-1.14	-0.75	9.59
RPPTXA-5605	1.30	-0.06	-0.39	7.30	-0.11	-0.15	10.30	-0.43	-0.28	10.26
RUJMWV-5601	1.50	0.14	0.93	6.80	-0.61	-0.82	12.70	1.97	1.31	12.74
RWBNYD-5601	1.40	0.04	0.27	8.00	0.59	0.79	10.08	-0.65	-0.43	10.08
RYEGWH-5601	1.30	-0.06	-0.39	6.20	-1.21	-1.63	12.10	1.37	0.91	12.10
RZBYUD-5601	1.40	0.04	0.27	7.50	0.09	0.12	10.76	0.03	0.02	10.76
T2ZFRR-5601	1.48	0.12	0.79	8.30	0.89	1.19	10.00	-0.73	-0.48	10.27
TAT3BB-5605	7.29	5.93	39.01 X	1.43	-5.98	-8.04 X	11.27	0.54	0.36	X
TELVRL-5605	0.37	-0.99	-6.51 X	1.95	-5.46	-7.34 X	10.90	0.17	0.11	10.94

TABLE 1

Stain A, continued

WebCode-Test	Width			Length			Angle			
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	*CalcAng*
THHNGA-5605	1.50	0.14	0.93	7.75	0.34	0.45	11.17	0.44	0.29	11.16
TM2GWH-5605	1.40	0.04	0.27	8.10	0.69	0.92	10.00	-0.73	-0.48	9.95
TYVWLJ-5605	1.40	0.04	0.27	6.90	-0.51	-0.69	11.80	1.07	0.71	11.71
U8J6L2-5601	1.30	-0.06	-0.39	8.50	1.09	1.46	9.00	-1.73	-1.14	8.80
UK8ATX-5605	1.30	-0.06	-0.39	8.50	1.09	1.46	8.80	-1.93	-1.28	8.80
UK9828-5605	1.40	0.04	0.27	7.40	-0.01	-0.02	10.70	-0.03	-0.02	10.91
UQCZ8W-5605	1.30	-0.06	-0.39	7.50	0.09	0.12	10.00	-0.73	-0.48	9.98
UZ2UER-5601	1.25	-0.11	-0.72	8.00	0.59	0.79	8.99	-1.74	-1.15	8.99
V3JFFD-5601	1.35	-0.01	-0.06	7.52	0.11	0.14	10.30	-0.43	-0.28	10.34
V6CAE3-5605	1.50	0.14	0.93	7.40	-0.01	-0.02	12.00	1.27	0.84	11.70
VZGFJM-5601	1.50	0.14	0.93	8.00	0.59	0.79	10.80	0.07	0.05	10.81
W4UH4X-5605	1.40	0.04	0.27	7.90	0.49	0.66	10.20	-0.53	-0.35	10.21
WCKCQU-5605	1.20	-0.16	-1.05	8.00	0.59	0.79	8.60	-2.13	-1.41	8.63
WFPNYG-5605	2.00	0.64	4.21 X	11.06	3.65	4.90 X	10.40	-0.33	-0.22	10.42
WPBVUY-5605	1.40	0.04	0.27	8.00	0.59	0.79	10.00	-0.73	-0.48	10.08
WZATFE-5605	1.20	-0.16	-1.05	7.50	0.09	0.12	9.20	-1.53	-1.01	9.21
X2ZBW7-5605	1.20	-0.16	-1.05	8.10	0.69	0.92	9.00	-1.73	-1.14	8.52
X7U7XD-5605	1.40	0.04	0.27	7.50	0.09	0.12	10.50	-0.23	-0.15	10.76
X8B3NR-5601	1.40	0.04	0.27	7.20	-0.21	-0.29	11.21	0.48	0.32	11.21

TABLE 1

Stain A, continued

WebCode-Test	Width			Length			Angle			
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	*CalcAng*
X8QNV9-5601	1.40	0.04	0.27	7.40	-0.01	-0.02	10.90	0.17	0.11	10.91
YADMQH-5601	1.45	0.09	0.60	6.50	-0.91	-1.23	12.90	2.17	1.44	12.89
YMF6CQ-5605	1.40	0.04	0.27	7.10	-0.31	-0.42	11.37	0.64	0.43	11.37
YMVGX2-5605	1.37	0.01	0.07	7.39	-0.02	-0.03	10.00	-0.73	-0.48	10.68
YVEGWM-5605	1.00	-0.36	-2.36	7.00	-0.41	-0.55	8.20	-2.53	-1.67	8.21
ZA4BHC-5601	1.30	-0.06	-0.39	6.90	-0.51	-0.69	10.90	0.17	0.11	10.86
ZB3BMH-5605	1.40	0.04	0.27	7.00	-0.41	-0.55	11.50	0.77	0.51	11.54
ZHKLXY-5605	1.40	0.04	0.27	7.60	0.19	0.25	10.60	-0.13	-0.08	10.62
ZJR4U9-5601	1.69	0.33	2.18	8.33	0.92	1.23	11.71	0.98	0.65	11.71
ZLJXUX-5605	1.40	0.04	0.27	7.20	-0.21	-0.29	11.21	0.48	0.32	11.21
ZRPQQE-5601	1.32	-0.04	-0.26	7.04	-0.37	-0.50	10.80	0.07	0.05	10.81
ZY4QVQ-5601	1.00	-0.36	-2.36	8.00	0.59	0.79	7.00	-3.73	-2.47	7.18
Grand Mean	1.36			7.41			10.73			10.72
Standard Deviation	0.15			0.74			1.51			1.49
Participants Included in calculations	177			174			183			181
Participants excluded from calculations (indicated by X)	6			9			0			2

Stain A Preparation Angle: 10.9°

TABLE 1

Stain B

WebCode-Test	Width			Length			Angle			
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	*CalcAng*
22R92H-5605	2.00	0.08	0.86	6.20	-0.38	-0.77	19.00	2.01	1.39	18.82
22T9WB-5601	1.84	-0.08	-0.87	6.62	0.04	0.08	16.14	-0.85	-0.59	16.14
29QVQW-5605	2.00	0.08	0.86	7.00	0.42	0.85	16.60	-0.39	-0.27	16.60
2DY9KN-5605	1.90	-0.02	-0.22	5.80	-0.78	-1.57	19.00	2.01	1.39	19.12
2GYJFN-5601	2.00	0.08	0.86	6.50	-0.08	-0.16	17.90	0.91	0.63	17.92
2QTD22-5601	1.90	-0.02	-0.22	6.20	-0.38	-0.77	17.80	0.81	0.56	17.85
2V3VX9-5605	1.80	-0.12	-1.31	6.10	-0.48	-0.97	17.20	0.21	0.14	17.16
32KLW9-5601	1.90	-0.02	-0.22	6.50	-0.08	-0.16	17.00	0.01	0.01	17.00
36LPQG-5605	1.97	0.05	0.53	6.88	0.30	0.60	16.70	-0.29	-0.20	16.64
38A2N2-5605	1.80	-0.12	-1.31	6.20	-0.38	-0.77	17.00	0.01	0.01	16.88
3EVUY2-5605	2.00	0.08	0.86	7.60	1.02	2.06	15.26	-1.73	-1.20	15.26
3KKCDC-5605	1.90	-0.02	-0.22	6.40	-0.18	-0.36	17.30	0.31	0.21	17.27
3M4L7A-5605	1.93	0.01	0.10	7.09	0.51	1.03	15.82	-1.17	-0.81	15.80
3NJPZ3-5605	1.90	-0.02	-0.22	6.50	-0.08	-0.16	17.00	0.01	0.01	17.00
3NZ446-5605	1.95	0.03	0.32	6.97	0.39	0.79	16.00	-0.99	-0.69	16.25
3WTEFL-5601	1.90	-0.02	-0.22	3.10	-3.48	-7.02 X	17.85	0.86	0.59	37.80 X
427EDD-5605	1.80	-0.12	-1.31	7.00	0.42	0.85	14.90	-2.09	-1.45	14.90
47YFC7-5605	1.91	-0.01	-0.11	6.65	0.07	0.14	17.00	0.01	0.01	16.69
487ZWZ-5605	1.80	-0.12	-1.31	6.20	-0.38	-0.77	16.90	-0.09	-0.06	16.88

TABLE 1

Stain B, continued

WebCode-Test	Width			Length			Angle			
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	*CalcAng*
48R8PC-5605	1.90	-0.02	-0.22	7.30	0.72	1.45	15.09	-1.90	-1.32	15.09
4AF228-5605	2.00	0.08	0.86	6.00	-0.58	-1.17	19.00	2.01	1.39	19.47
4BPTC9-5605	1.90	-0.02	-0.22	7.40	0.82	1.65	15.00	-1.99	-1.38	14.88
4GF3L8-5605	1.98	0.06	0.64	6.14	-0.44	-0.89	18.80	1.81	1.25	18.81
4KT793-5601	1.90	-0.02	-0.22	6.80	0.22	0.44	16.23	-0.76	-0.53	16.23
6HMZ9M-5605	1.00	-0.92	-9.97 X	5.00	-1.58	-3.19 X	11.50	-5.49	-3.81 X	11.54 X
6MW739-5605	2.00	0.08	0.86	6.60	0.02	0.04	17.60	0.61	0.42	17.64
6NCHNK-5601	2.00	0.08	0.86	7.30	0.72	1.45	15.90	-1.09	-0.76	15.90
6NCHQ6-5605	2.00	0.08	0.86	7.50	0.92	1.85	15.50	-1.49	-1.03	15.47
6R8D6X-5605	2.00	0.08	0.86	6.30	-0.28	-0.57	18.50	1.51	1.05	18.51
6RBTKK-5601	1.90	-0.02	-0.22	7.00	0.42	0.85	15.70	-1.29	-0.90	15.75
6ZNRCA-5605	1.75	-0.17	-1.85	6.00	-0.58	-1.17	16.96	-0.03	-0.02	16.96
77NQZ6-5605	1.80	-0.12	-1.31	6.60	0.02	0.04	15.80	-1.19	-0.83	15.83
79CZCQ-5605	1.90	-0.02	-0.22	6.80	0.22	0.44	16.00	-0.99	-0.69	16.23
79RB3J-5601	1.80	-0.12	-1.31	7.40	0.82	1.65	13.00	-3.99	-2.77	14.08
7AB7TK-5601	2.00	0.08	0.86	7.00	0.42	0.85	16.60	-0.39	-0.27	16.60
7AM3XP-5605	1.70	-0.22	-2.39	5.80	-0.78	-1.57	17.00	0.01	0.01	17.04
7L2Z6E-5601	2.00	0.08	0.86	6.40	-0.18	-0.36	18.20	1.21	0.84	18.21
7WYXQT-5605	2.00	0.08	0.86	7.00	0.42	0.85	16.60	-0.39	-0.27	16.60

TABLE 1

Stain B, continued

WebCode-Test	Width			Length			Angle			
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	*CalcAng*
7X9UAC-5605	2.00	0.08	0.86	6.10	-0.48	-0.97	19.10	2.11	1.46	19.14
7XD84Z-5601	1.90	-0.02	-0.22	6.60	0.02	0.04	16.70	-0.29	-0.20	16.73
82NUUB-5601	1.90	-0.02	-0.22	6.50	-0.08	-0.16	16.78	-0.21	-0.15	17.00
84D7RV-5601	2.00	0.08	0.86	6.66	0.08	0.16	17.45	0.46	0.32	17.48
8MU8NH-5605	1.90	-0.02	-0.22	6.20	-0.38	-0.77	17.80	0.81	0.56	17.85
8PE9GJ-5601	2.00	0.08	0.86	6.00	-0.58	-1.17	19.47	2.48	1.72	19.47
8UBLT9-5605	1.80	-0.12	-1.31	6.60	0.02	0.04	16.00	-0.99	-0.69	15.83
93GYXH-5605	1.50	-0.42	-4.55 X	5.50	-1.08	-2.18	15.82	-1.17	-0.81	15.83
993Z78-5601	1.90	-0.02	-0.22	5.60	-0.98	-1.98	19.80	2.81	1.95	19.83
9DFQNV-5605	1.98	0.06	0.64	7.31	0.73	1.47	15.70	-1.29	-0.90	15.72
9DJBF6-5601	1.80	-0.12	-1.31	6.60	0.02	0.04	15.80	-1.19	-0.83	15.83
9EV8MV-5605	2.00	0.08	0.86	6.80	0.22	0.44	17.00	0.01	0.01	17.10
9M4LPW-5601	2.00	0.08	0.86	6.40	-0.18	-0.36	18.20	1.21	0.84	18.21
9T7WDG-5605	2.00	0.08	0.86	6.00	-0.58	-1.17	19.50	2.51	1.74	19.47
9VHMQR-5605	1.90	-0.02	-0.22	6.50	-0.08	-0.16	17.00	0.01	0.01	17.00
A24XG2-5605	2.00	0.08	0.86	6.20	-0.38	-0.77	18.80	1.81	1.25	18.82
AAW7Z8-5601	1.90	-0.02	-0.22	5.80	-0.78	-1.57	19.12	2.13	1.48	19.12
AL8L6Q-5605	2.00	0.08	0.86	6.70	0.12	0.24	17.80	0.81	0.56	17.37
AM2AML-5605	1.80	-0.12	-1.31	6.50	-0.08	-0.16	16.00	-0.99	-0.69	16.08

TABLE 1

Stain B, continued

WebCode-Test	Width			Length			Angle			
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	*CalcAng*
AVVCRJ-5605	1.90	-0.02	-0.22	6.30	-0.28	-0.57	17.50	0.51	0.35	17.55
AVWAZT-5601	2.08	0.16	1.73	6.65	0.07	0.14	18.20	1.21	0.84	18.23
AYWKVT-5601	1.96	0.04	0.43	6.84	0.26	0.52	16.67	-0.32	-0.22	16.65
BFD476-5601	2.00	0.08	0.86	5.50	-1.08	-2.18	21.30	4.31	2.99	21.32 X
BGBCFB-5601	2.00	0.08	0.86	6.60	0.02	0.04	18.00	1.01	0.70	17.64
BPNCPR-5601	2.00	0.08	0.86	6.50	-0.08	-0.16	17.92	0.93	0.64	17.92
BUXLYA-5605	1.90	-0.02	-0.22	7.00	0.42	0.85	15.70	-1.29	-0.90	15.75
BYTAG2-5605	1.82	-0.10	-1.09	5.91	-0.67	-1.35	18.00	1.01	0.70	17.94
C2UPD7-5605	2.11	0.19	2.05	6.40	-0.18	-0.36	19.30	2.31	1.60	19.25
C2Y38U-5601	1.79	-0.13	-1.41	6.48	-0.10	-0.20	16.00	-0.99	-0.69	16.04
C37FT3-5605	1.31	-0.61	-6.61 X	4.43	-2.15	-4.33 X	17.20	0.21	0.14	17.20
C4Y9NK-5601	1.90	-0.02	-0.22	7.00	0.42	0.85	15.70	-1.29	-0.90	15.75
CCCF7A-5605	1.90	-0.02	-0.22	6.60	0.02	0.04	17.00	0.01	0.01	16.73
CCV2YZ-5605	2.59	0.67	7.25 X	9.11	2.53	5.10 X	16.50	-0.49	-0.34	16.52
CFW8D7-5605	1.90	-0.02	-0.22	6.40	-0.18	-0.36	16.90	-0.09	-0.06	17.27
CTL769-5601	1.50	-0.42	-4.55 X	7.00	0.42	0.85	12.36	-4.63	-3.21 X	12.37 X
CXFXGC-5605	1.76	-0.16	-1.74	6.78	0.20	0.40	15.05	-1.94	-1.35	15.05
CZY6RR-5605	2.00	0.08	0.86	7.00	0.42	0.85	17.00	0.01	0.01	16.60
D72FFC-5601	2.00	0.08	0.86	7.00	0.42	0.85	16.00	-0.99	-0.69	16.60

TABLE 1

Stain B, continued

WebCode-Test	Width			Length			Angle			
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	*CalcAng*
DBGWZ3-5605	1.93	0.01	0.10	6.52	-0.06	-0.12	17.22	0.23	0.16	17.22
DCE6B8-5605	2.00	0.08	0.86	7.20	0.62	1.25	16.10	-0.89	-0.62	16.13
DFQ734-5605	1.96	0.04	0.43	7.22	0.64	1.29	15.75	-1.24	-0.86	15.75
DK36KP-5601	1.98	0.06	0.64	6.41	-0.17	-0.34	18.00	1.01	0.70	17.99
DV4PMH-5601	2.21	0.29	3.13 X	7.46	0.88	1.77	17.23	0.24	0.17	17.23
EF7VPG-5605	1.50	-0.42	-4.55 X	5.25	-1.33	-2.68	16.60	-0.39	-0.27	16.60
EF7XG8-5605	1.70	-0.22	-2.39	5.60	-0.98	-1.98	17.70	0.71	0.49	17.67
ENKLDU-5605	1.93	0.01	0.10	6.29	-0.29	-0.59	18.00	1.01	0.70	17.87
EQPCHN-5605	1.80	-0.12	-1.31	5.40	-1.18	-2.38	19.00	2.01	1.39	19.47
FGUUGK-5605	1.90	-0.02	-0.22	7.30	0.72	1.45	15.10	-1.89	-1.31	15.09
FW7AGV-5605	2.00	0.08	0.86	6.00	-0.58	-1.17	19.47	2.48	1.72	19.47
FW83GN-5605	2.00	0.08	0.86	6.60	0.02	0.04	17.60	0.61	0.42	17.64
FZ7KDV-5605	1.96	0.04	0.43	6.31	-0.27	-0.55	18.09	1.10	0.76	18.10
G2FRFN-5605	1.90	-0.02	-0.22	7.60	1.02	2.06	14.00	-2.99	-2.07	14.48
G477LD-5605	2.00	0.08	0.86	7.20	0.62	1.25	16.00	-0.99	-0.69	16.13
GBPAV2-5601	2.53	0.61	6.60 X	7.56	0.98	1.97	19.55	2.56	1.77	19.55
GDRARR-5605	2.10	0.18	1.94	7.10	0.52	1.05	17.00	0.01	0.01	17.20
GMZKJQ-5601	1.90	-0.02	-0.22	6.70	0.12	0.24	16.47	-0.52	-0.36	16.47
GP4DHV-5605	31.60	29.68	321.34X	96.20	89.62	180.65X	19.20	2.21	1.53	19.18

TABLE 1

Stain B, continued

WebCode-Test	Width			Length			Angle			
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	*CalcAng*
GT4NDV-5605	2.37	0.45	4.87 X	8.18	1.60	3.22 X	16.80	-0.19	-0.13	16.84
GY9MMZ-5601	1.90	-0.02	-0.22	5.70	-0.88	-1.77	19.40	2.41	1.67	19.47
HN7K23-5605	2.00	0.08	0.86	6.30	-0.28	-0.57	18.50	1.51	1.05	18.51
HTHLTZ-5605	1.50	-0.42	-4.55 X	6.00	-0.58	-1.17	14.00	-2.99	-2.07	14.48
HW3JA4-5605	1.60	-0.32	-3.47 X	5.80	-0.78	-1.57	16.00	-0.99	-0.69	16.01
J2AACA-5605	1.80	-0.12	-1.31	7.00	0.42	0.85	14.90	-2.09	-1.45	14.90
JEWGAB-5601	2.00	0.08	0.86	6.80	0.22	0.44	17.10	0.11	0.08	17.10
JQALEK-5601	2.00	0.08	0.86	6.20	-0.38	-0.77	30.00	13.01	9.02 X	18.82
K8VHGZ-5601	1.80	-0.12	-1.31	7.10	0.52	1.05	15.00	-1.99	-1.38	14.69
K9RXNQ-5605	2.00	0.08	0.86	6.10	-0.48	-0.97	19.10	2.11	1.46	19.14
KDV4ZM-5605	1.90	-0.02	-0.22	6.20	-0.38	-0.77	18.00	1.01	0.70	17.85
KFA9XK-5601	1.90	-0.02	-0.22	7.00	0.42	0.85	15.70	-1.29	-0.90	15.75
KHRPTB-5601	2.10	0.18	1.94	6.40	-0.18	-0.36	19.20	2.21	1.53	19.16
LBPY7Y-5601	1.90	-0.02	-0.22	6.00	-0.58	-1.17	18.00	1.01	0.70	18.46
LLPK4X-5605	2.03	0.11	1.21	6.86	0.28	0.56	17.20	0.21	0.14	17.24
LNBFTB-5605	1.75	-0.17	-1.85	6.90	0.32	0.64	14.69	-2.30	-1.60	14.69
LYUUTT-5605	1.90	-0.02	-0.22	6.30	-0.28	-0.57	17.60	0.61	0.42	17.55
M4LDC3-5605	1.80	-0.12	-1.31	5.40	-1.18	-2.38	19.50	2.51	1.74	19.47
M9X3DY-5601	2.00	0.08	0.86	7.40	0.82	1.65	15.00	-1.99	-1.38	15.68

TABLE 1

Stain B, continued

WebCode-Test	Width			Length			Angle			
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	*CalcAng*
MC2XYM-5605	1.95	0.03	0.32	6.00	-0.58	-1.17	19.00	2.01	1.39	18.97
MH7THM-5605	1.90	-0.02	-0.22	6.00	-0.58	-1.17	18.00	1.01	0.70	18.46
MTMJGR-5605	1.75	-0.17	-1.85	6.50	-0.08	-0.16	15.60	-1.39	-0.96	15.62
MVT338-5601	1.75	-0.17	-1.85	7.00	0.42	0.85	14.48	-2.51	-1.74	14.48
N6EM3X-5601	2.13	0.21	2.27	6.71	0.13	0.26	18.50	1.51	1.05	18.51
NDPNNX-5605	1.90	-0.02	-0.22	5.50	-1.08	-2.18	20.20	3.21	2.22	20.21
NGRQ89-5605	1.90	-0.02	-0.22	6.60	0.02	0.04	17.00	0.01	0.01	16.73
NJTUWA-5605	2.00	0.08	0.86	6.00	-0.58	-1.17	19.50	2.51	1.74	19.47
NLFJCF-5605	1.90	-0.02	-0.22	7.00	0.42	0.85	15.70	-1.29	-0.90	15.75
NMT336-5601	1.73	-0.19	-2.06	6.76	0.18	0.36	14.80	-2.19	-1.52	14.83
NTGN97-5601	1.90	-0.02	-0.22	6.30	-0.28	-0.57	17.60	0.61	0.42	17.55
P2WMKW-5605	2.00	0.08	0.86	6.50	-0.08	-0.16	17.90	0.91	0.63	17.92
P69NCU-5605	1.96	0.04	0.43	6.54	-0.04	-0.08	18.15	1.16	0.80	17.44
PAP26U-5605	1.88	-0.04	-0.44	7.22	0.64	1.29	15.90	-1.09	-0.76	15.09
PFQBCM-5601	1.90	-0.02	-0.22	6.30	-0.28	-0.57	17.60	0.61	0.42	17.55
PN8PHY-5601	1.80	-0.12	-1.31	7.00	0.42	0.85	15.00	-1.99	-1.38	14.90
PPE8DN-5605	0.46	-1.46	-15.81 X	1.53	-5.05	-10.18 X	18.00	1.01	0.70	17.50
PV2YKG-5601	2.00	0.08	0.86	6.89	0.31	0.62	16.90	-0.09	-0.06	16.87
PZYDAR-5601	1.80	-0.12	-1.31	6.00	-0.58	-1.17	17.40	0.41	0.28	17.46

TABLE 1

Stain B, continued

WebCode-Test	Width			Length			Angle			
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	*CalcAng*
Q993RW-5601	2.00	0.08	0.86	6.00	-0.58	-1.17	19.00	2.01	1.39	19.47
Q9LN8Z-5605	2.00	0.08	0.86	6.50	-0.08	-0.16	17.90	0.91	0.63	17.92
QBEPZU-5605	1.80	-0.12	-1.31	4.80	-1.78	-3.59 X	22.00	5.01	3.47 X	22.02 X
QTU2QZ-5605	1.90	-0.02	-0.22	6.26	-0.32	-0.65	17.70	0.71	0.49	17.67
QVKZ6X-5601	1.80	-0.12	-1.31	7.20	0.62	1.25	14.50	-2.49	-1.73	14.48
QVKZ8J-5605	1.95	0.03	0.32	6.40	-0.18	-0.36	18.00	1.01	0.70	17.74
R4A7HW-5605	2.00	0.08	0.86	6.50	-0.08	-0.16	17.90	0.91	0.63	17.92
RFLG6L-5605	2.00	0.08	0.86	7.00	0.42	0.85	16.60	-0.39	-0.27	16.60
RGF7AF-5601	1.90	-0.02	-0.22	6.60	0.02	0.04	16.70	-0.29	-0.20	16.73
RLNRQK-5601	2.00	0.08	0.86	7.00	0.42	0.85	16.60	-0.39	-0.27	16.60
RPNVPY-5601	2.00	0.08	0.86	7.20	0.62	1.25	16.13	-0.86	-0.60	16.13
RPPTXA-5605	1.80	-0.12	-1.31	6.20	-0.38	-0.77	16.90	-0.09	-0.06	16.88
RUJMWV-5601	1.90	-0.02	-0.22	6.20	-0.38	-0.77	17.80	0.81	0.56	17.85
RWBNYD-5601	2.00	0.08	0.86	7.00	0.42	0.85	16.60	-0.39	-0.27	16.60
RYEGWH-5601	1.80	-0.12	-1.31	6.30	-0.28	-0.57	16.60	-0.39	-0.27	16.60
RZBYUD-5601	1.90	-0.02	-0.22	6.60	0.02	0.04	16.73	-0.26	-0.18	16.73
T2ZFRR-5601	1.90	-0.02	-0.22	6.90	0.32	0.64	16.00	-0.99	-0.69	15.98
TAT3BB-5605	6.63	4.71	50.99 X	1.88	-4.70	-9.48 X	16.48	-0.51	-0.35	X
TELVRL-5605	0.58	-1.34	-14.51 X	2.03	-4.55	-9.17 X	16.60	-0.39	-0.27	16.60

TABLE 1

Stain B, continued

WebCode-Test	Width			Length			Angle			
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	*CalcAng*
THHNGA-5605	2.00	0.08	0.86	6.25	-0.33	-0.67	18.69	1.70	1.18	18.66
TM2GWH-5605	1.80	-0.12	-1.31	6.80	0.22	0.44	15.30	-1.69	-1.17	15.35
TYVWLJ-5605	1.90	-0.02	-0.22	6.20	-0.38	-0.77	18.10	1.11	0.77	17.85
U8J6L2-5601	1.90	-0.02	-0.22	7.50	0.92	1.85	15.00	-1.99	-1.38	14.67
UK8ATX-5605	2.00	0.08	0.86	6.90	0.32	0.64	16.80	-0.19	-0.13	16.85
UK9828-5605	2.00	0.08	0.86	6.80	0.22	0.44	17.00	0.01	0.01	17.10
UQCZ8W-5605	2.00	0.08	0.86	7.00	0.42	0.85	16.60	-0.39	-0.27	16.60
UZ2UER-5601	1.75	-0.17	-1.85	6.50	-0.08	-0.16	15.62	-1.37	-0.95	15.62
V3JFFD-5601	1.86	-0.06	-0.66	6.65	0.07	0.14	16.20	-0.79	-0.55	16.24
V6CAE3-5605	1.90	-0.02	-0.22	6.60	0.02	0.04	17.00	0.01	0.01	16.73
VZGFJM-5601	2.00	0.08	0.86	7.00	0.42	0.85	16.60	-0.39	-0.27	16.60
W4UH4X-5605	1.90	-0.02	-0.22	6.80	0.22	0.44	16.20	-0.79	-0.55	16.23
WCKCQU-5605	1.70	-0.22	-2.39	6.60	0.02	0.04	14.90	-2.09	-1.45	14.93
WFPNYG-5605	2.85	0.93	10.06 X	10.20	3.62	7.30 X	16.20	-0.79	-0.55	16.23
WPBVUY-5605	1.90	-0.02	-0.22	7.00	0.42	0.85	16.00	-0.99	-0.69	15.75
WZATFE-5605	1.70	-0.22	-2.39	6.80	0.22	0.44	14.50	-2.49	-1.73	14.48
X2ZBW7-5605	1.60	-0.32	-3.47 X	7.00	0.42	0.85	13.00	-3.99	-2.77	13.21
X7U7XD-5605	1.90	-0.02	-0.22	6.50	-0.08	-0.16	16.60	-0.39	-0.27	17.00
X8B3NR-5601	1.90	-0.02	-0.22	6.60	0.02	0.04	16.73	-0.26	-0.18	16.73

TABLE 1

Stain B, continued

WebCode-Test	Width			Length			Angle			
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	*CalcAng*
X8QNV9-5601	2.00	0.08	0.86	6.60	0.02	0.04	17.60	0.61	0.42	17.64
YADMQH-5601	1.90	-0.02	-0.22	5.50	-1.08	-2.18	20.21	3.22	2.23	20.21
YMF6CQ-5605	2.00	0.08	0.86	6.70	0.12	0.24	17.37	0.38	0.26	17.37
YMVGX2-5605	2.03	0.11	1.18	6.58	0.00	0.00	18.00	1.01	0.70	17.97
YVEGWM-5605	2.00	0.08	0.86	7.00	0.42	0.85	16.60	-0.39	-0.27	16.60
ZA4BHC-5601	1.90	-0.02	-0.22	6.60	0.02	0.04	16.70	-0.29	-0.20	16.73
ZB3BMH-5605	2.00	0.08	0.86	6.30	-0.28	-0.57	18.50	1.51	1.05	18.51
ZHKLXY-5605	1.90	-0.02	-0.22	6.70	0.12	0.24	16.50	-0.49	-0.34	16.47
ZJR4U9-5601	2.19	0.27	2.92	7.55	0.97	1.95	16.86	-0.13	-0.09	16.86
ZLJXUX-5605	1.80	-0.12	-1.31	6.80	0.22	0.44	15.35	-1.64	-1.14	15.35
ZRPQQE-5601	1.82	-0.10	-1.09	6.86	0.28	0.56	15.40	-1.59	-1.10	15.39
ZY4QVQ-5601	2.00	0.08	0.86	7.00	0.42	0.85	16.00	-0.99	-0.69	16.60
Grand Mean	1.92			6.58			16.99			16.99
Standard Deviation	0.09			0.50			1.44			1.40
Participants Included in calculations	166			172			179			177
Participants excluded from calculations (indicated by X)	17			11			4			6

Stain B Preparation Angle: 16.9°

TABLE 1

Stain C

WebCode-Test	Width			Length			Angle			
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	*CalcAng*
22R92H-5605	3.60	-0.14	-0.87	19.00	-1.10	-0.73	11.00	0.36	0.37	10.92
22T9WB-5601	3.64	-0.10	-0.61	20.73	0.63	0.42	10.11	-0.53	-0.56	10.11
29QVQW-5605	4.00	0.26	1.69	20.00	-0.10	-0.07	11.50	0.86	0.90	11.54
2DY9KN-5605	3.70	-0.04	-0.23	17.60	-2.50	-1.66	12.00	1.36	1.42	12.14
2GYJFN-5601	3.75	0.01	0.09	18.00	-2.10	-1.40	12.00	1.36	1.42	12.02
2QTD22-5601	3.70	-0.04	-0.23	19.10	-1.00	-0.66	11.20	0.56	0.58	11.17
2V3VX9-5605	3.60	-0.14	-0.87	18.70	-1.40	-0.93	11.10	0.46	0.48	11.10
32KLW9-5601	3.70	-0.04	-0.23	20.00	-0.10	-0.07	10.70	0.06	0.06	10.66
36LPQG-5605	3.76	0.02	0.16	21.10	1.00	0.67	10.30	-0.34	-0.36	10.26
38A2N2-5605	3.60	-0.14	-0.87	21.30	1.20	0.80	10.00	-0.64	-0.68	9.73
3EVUY2-5605	3.60	-0.14	-0.87	20.80	0.70	0.47	9.97	-0.67	-0.71	9.97
3KKCDC-5605	3.50	-0.24	-1.51	19.00	-1.10	-0.73	10.60	-0.04	-0.05	10.62
3M4L7A-5605	3.72	-0.02	-0.10	21.67	1.57	1.04	9.92	-0.72	-0.76	9.88
3NJPZ3-5605	3.70	-0.04	-0.23	20.00	-0.10	-0.07	11.00	0.36	0.37	10.66
3NZ446-5605	3.89	0.15	0.99	20.59	0.49	0.33	11.00	0.36	0.37	10.89
3WTEFL-5601	3.80	0.06	0.41	9.75	-10.35	-6.88 X	11.24	0.60	0.63	22.94 X
427EDD-5605	3.60	-0.14	-0.87	20.20	0.10	0.07	10.26	-0.38	-0.40	10.27
47YFC7-5605	3.80	0.06	0.41	22.46	2.36	1.57	10.00	-0.64	-0.68	9.74
487ZWZ-5605	3.00	-0.74	-4.70 X	22.00	1.90	1.26	7.80	-2.84	-2.99	7.84

TABLE 1

Stain C, continued

WebCode-Test	Width			Length			Angle			
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	*CalcAng*
48R8PC-5605	3.80	0.06	0.41	22.50	2.40	1.60	9.72	-0.92	-0.97	9.72
4AF228-5605	3.70	-0.04	-0.23	19.00	-1.10	-0.73	11.00	0.36	0.37	11.23
4BPTC9-5605	3.70	-0.04	-0.23	22.10	2.00	1.33	10.00	-0.64	-0.68	9.64
4GF3L8-5605	3.96	0.22	1.43	18.87	-1.23	-0.82	12.10	1.46	1.53	12.11
4KT793-5601	3.60	-0.14	-0.87	21.00	0.90	0.60	9.87	-0.77	-0.81	9.87
6HMZ9M-5605	3.00	-0.74	-4.70 X	16.00	-4.10	-2.73	10.80	0.16	0.16	10.81
6MW739-5605	3.80	0.06	0.41	20.20	0.10	0.07	10.70	0.06	0.06	10.84
6NCHNK-5601	3.70	-0.04	-0.23	21.70	1.60	1.06	9.82	-0.82	-0.87	9.82
6NCHQ6-5605	4.00	0.26	1.69	22.30	2.20	1.46	10.30	-0.34	-0.36	10.33
6R8D6X-5605	3.80	0.06	0.41	17.70	-2.40	-1.59	12.40	1.76	1.84	12.40
6RBTKK-5601	3.80	0.06	0.41	21.00	0.90	0.60	10.40	-0.24	-0.26	10.43
6ZNRCA-5605	3.00	-0.74	-4.70 X	21.00	0.90	0.60	8.21	-2.43	-2.56	8.21
77NQZ6-5605	3.60	-0.14	-0.87	21.50	1.40	0.93	9.60	-1.04	-1.10	9.64
79CZCQ-5605	3.90	0.16	1.05	20.80	0.70	0.47	11.00	0.36	0.37	10.81
79RB3J-5601	4.00	0.26	1.69	23.00	2.90	1.93	10.00	-0.64	-0.68	10.02
7AB7TK-5601	3.60	-0.14	-0.87	21.50	1.40	0.93	9.64	-1.00	-1.05	9.64
7AM3XP-5605	3.60	-0.14	-0.87	18.50	-1.60	-1.06	11.00	0.36	0.37	11.22
7L2Z6E-5601	3.80	0.06	0.41	20.50	0.40	0.27	10.70	0.06	0.06	10.68
7WYXQT-5605	3.80	0.06	0.41	22.50	2.40	1.60	9.70	-0.94	-0.99	9.72

TABLE 1

Stain C, continued

WebCode-Test	Width			Length			Angle			
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	*CalcAng*
7X9UAC-5605	3.70	-0.04	-0.23	19.90	-0.20	-0.13	10.70	0.06	0.06	10.72
7XD84Z-5601	3.80	0.06	0.41	19.60	-0.50	-0.33	11.20	0.56	0.58	11.18
82NUUB-5601	3.70	-0.04	-0.23	20.00	-0.10	-0.07	10.82	0.18	0.18	10.66
84D7RV-5601	3.84	0.10	0.67	21.37	1.27	0.85	10.34	-0.30	-0.32	10.35
8MU8NH-5605	3.70	-0.04	-0.23	19.10	-1.00	-0.66	11.20	0.56	0.58	11.17
8PE9GJ-5601	3.70	-0.04	-0.23	18.00	-2.10	-1.40	11.86	1.22	1.28	11.86
8UBLT9-5605	3.80	0.06	0.41	20.20	0.10	0.07	11.00	0.36	0.37	10.84
93GYXH-5605	3.00	-0.74	-4.70 X	18.00	-2.10	-1.40	9.59	-1.05	-1.11	9.59
993Z78-5601	3.75	0.01	0.09	18.80	-1.30	-0.86	11.50	0.86	0.90	11.51
9DFQNV-5605	4.02	0.28	1.82	24.00	3.90	2.59	9.60	-1.04	-1.10	9.64
9DJBF6-5601	3.60	-0.14	-0.87	20.60	0.50	0.33	10.10	-0.54	-0.57	10.06
9EV8MV-5605	3.60	-0.14	-0.87	20.00	-0.10	-0.07	10.00	-0.64	-0.68	10.37
9M4LPW-5601	3.60	-0.14	-0.87	18.70	-1.40	-0.93	11.10	0.46	0.48	11.10
9T7WDG-5605	3.00	-0.74	-4.70 X	20.00	-0.10	-0.07	8.60	-2.04	-2.15	8.63
9VHMQR-5605	3.80	0.06	0.41	20.80	0.70	0.47	11.00	0.36	0.37	10.53
A24XG2-5605	3.90	0.16	1.05	19.10	-1.00	-0.66	11.80	1.16	1.21	11.78
AAW7Z8-5601	3.80	0.06	0.41	20.20	0.10	0.07	10.84	0.20	0.21	10.84
AL8L6Q-5605	3.80	0.06	0.41	20.30	0.20	0.13	10.80	0.16	0.16	10.79
AM2AML-5605	3.70	-0.04	-0.23	20.80	0.70	0.47	10.00	-0.64	-0.68	10.25

TABLE 1

Stain C, continued

WebCode-Test	Width			Length			Angle			
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	*CalcAng*
AVVCRJ-5605	3.70	-0.04	-0.23	19.90	-0.20	-0.13	10.70	0.06	0.06	10.72
AVWAZT-5601	3.92	0.18	1.18	20.60	0.50	0.33	11.00	0.36	0.37	10.97
AYWKVT-5601	3.74	0.00	0.03	21.29	1.19	0.79	10.12	-0.52	-0.55	10.12
BFD476-5601	4.00	0.26	1.69	18.00	-2.10	-1.40	12.80	2.16	2.26	12.84
BGBCFB-5601	3.70	-0.04	-0.23	20.50	0.40	0.27	10.00	-0.64	-0.68	10.40
BPNCPR-5601	3.60	-0.14	-0.87	18.00	-2.10	-1.40	11.53	0.89	0.93	11.54
BUXLYA-5605	3.70	-0.04	-0.23	20.30	0.20	0.13	10.50	-0.14	-0.15	10.50
BYTAG2-5605	3.73	-0.01	-0.04	19.23	-0.87	-0.58	11.20	0.56	0.58	11.18
C2UPD7-5605	3.86	0.12	0.79	20.10	0.00	0.00	11.10	0.46	0.48	11.07
C2Y38U-5601	3.72	-0.02	-0.10	21.00	0.90	0.60	10.20	-0.44	-0.47	10.20
C37FT3-5605	1.35	-2.39	-15.24 X	7.13	-12.97	-8.62 X	10.90	0.26	0.27	10.91
C4Y9NK-5601	3.70	-0.04	-0.23	20.60	0.50	0.33	10.30	-0.34	-0.36	10.35
CCCF7A-5605	3.80	0.06	0.41	18.00	-2.10	-1.40	12.00	1.36	1.42	12.19
CCV2YZ-5605	2.29	-1.45	-9.23 X	12.63	-7.47	-4.97 X	10.40	-0.24	-0.26	10.45
CFW8D7-5605	3.80	0.06	0.41	19.70	-0.40	-0.26	11.00	0.36	0.37	11.12
CTL769-5601	3.50	-0.24	-1.51	21.50	1.40	0.93	9.38	-1.26	-1.33	9.37
CXFXGC-5605	3.45	-0.29	-1.82	21.83	1.73	1.15	9.09	-1.55	-1.63	9.09
CZY6RR-5605	4.00	0.26	1.69	23.00	2.90	1.93	10.00	-0.64	-0.68	10.02
D72FFC-5601	4.00	0.26	1.69	21.00	0.90	0.60	11.00	0.36	0.37	10.98

TABLE 1

Stain C, continued

WebCode-Test	Width			Length			Angle			
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	*CalcAng*
DBGWZ3-5605	3.81	0.07	0.48	19.29	-0.81	-0.54	11.39	0.75	0.78	11.39
DCE6B8-5605	4.00	0.26	1.69	18.80	-1.30	-0.86	12.30	1.66	1.74	12.28
DFQ734-5605	3.68	-0.06	-0.36	21.15	1.05	0.70	10.02	-0.62	-0.66	10.02
DK36KP-5601	3.89	0.15	0.99	21.20	1.10	0.73	10.60	-0.04	-0.05	10.57
DV4PMH-5601	3.78	0.04	0.28	23.31	3.21	2.14	9.33	-1.31	-1.38	9.33
EF7VPG-5605	2.60	-1.14	-7.25 X	15.80	-4.30	-2.86	9.47	-1.17	-1.23	9.47
EF7XG8-5605	3.40	-0.34	-2.14	19.40	-0.70	-0.46	10.00	-0.64	-0.68	10.09
ENKLDU-5605	3.78	0.04	0.28	19.47	-0.63	-0.42	11.00	0.36	0.37	11.19
EQPCHN-5605	3.60	-0.14	-0.87	18.80	-1.30	-0.86	11.00	0.36	0.37	11.04
FGUUGK-5605	3.80	0.06	0.41	22.00	1.90	1.26	9.90	-0.74	-0.78	9.95
FW7AGV-5605	4.00	0.26	1.69	19.60	-0.50	-0.33	11.77	1.13	1.18	11.78
FW83GN-5605	4.00	0.26	1.69	20.10	0.00	0.00	11.00	0.36	0.37	11.48
FZ7KDV-5605	3.76	0.02	0.16	19.96	-0.14	-0.09	10.85	0.21	0.22	10.86
G2FRFN-5605	3.50	-0.24	-1.51	22.10	2.00	1.33	9.00	-1.64	-1.73	9.11
G477LD-5605	3.90	0.16	1.05	20.10	0.00	0.00	11.00	0.36	0.37	11.19
GBPAV2-5601	3.66	-0.08	-0.48	23.08	2.98	1.98	9.13	-1.51	-1.59	9.12
GDRARR-5605	4.10	0.36	2.33	21.60	1.50	1.00	11.00	0.36	0.37	10.94
GMZKJQ-5601	3.60	-0.14	-0.87	21.00	0.90	0.60	9.87	-0.77	-0.81	9.87
GP4DHV-5605	28.60	24.86	158.84X	142.30	122.20	81.25 X	11.60	0.96	1.00	11.59

TABLE 1

Stain C, continued

WebCode-Test	Width			Length			Angle			
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	*CalcAng*
GT4NDV-5605	2.19	-1.55	-9.87 X	11.20	-8.90	-5.92 X	11.30	0.66	0.69	11.28
GY9MMZ-5601	3.70	-0.04	-0.23	19.00	-1.10	-0.73	11.20	0.56	0.58	11.23
HN7K23-5605	4.00	0.26	1.69	19.00	-1.10	-0.73	12.20	1.56	1.63	12.15
HTHLTZ-5605	3.00	-0.74	-4.70 X	20.00	-0.10	-0.07	9.00	-1.64	-1.73	8.63
HW3JA4-5605	3.30	-0.44	-2.78	16.50	-3.60	-2.39	11.00	0.36	0.37	11.54
J2AACA-5605	3.70	-0.04	-0.23	19.20	-0.90	-0.60	11.10	0.46	0.48	11.11
JEWGAB-5601	3.70	-0.04	-0.23	19.20	-0.90	-0.60	11.10	0.46	0.48	11.11
JQALEK-5601	3.90	0.16	1.05	18.00	-2.10	-1.40	12.50	1.86	1.95	12.51
K8VHGZ-5601	3.60	-0.14	-0.87	21.40	1.30	0.87	10.00	-0.64	-0.68	9.68
K9RXNQ-5605	3.90	0.16	1.05	17.90	-2.20	-1.46	12.60	1.96	2.05	12.58
KDV4ZM-5605	3.80	0.06	0.41	18.60	-1.50	-1.00	12.00	1.36	1.42	11.79
KFA9XK-5601	3.90	0.16	1.05	19.20	-0.90	-0.60	11.70	1.06	1.11	11.72
KHRPTB-5601	3.90	0.16	1.05	19.50	-0.60	-0.40	11.50	0.86	0.90	11.54
LBPY7Y-5601	3.60	-0.14	-0.87	19.00	-1.10	-0.73	11.00	0.36	0.37	10.92
LLPK4X-5605	3.81	0.07	0.48	19.56	-0.54	-0.36	11.20	0.56	0.58	11.23
LNBFTB-5605	3.65	-0.09	-0.55	20.45	0.35	0.23	10.28	-0.36	-0.38	10.28
LYUUTT-5605	4.00	0.26	1.69	19.00	-1.10	-0.73	12.20	1.56	1.63	12.15
M4LDC3-5605	3.80	0.06	0.41	16.80	-3.30	-2.19	13.10	2.46	2.58	13.07
M9X3DY-5601	3.00	-0.74	-4.70 X	20.60	0.50	0.33	8.00	-2.64	-2.78	8.37

TABLE 1

Stain C, continued

WebCode-Test	Width			Length			Angle			
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	*CalcAng*
MC2XYM-5605	3.70	-0.04	-0.23	16.00	-4.10	-2.73	13.40	2.76	2.89	13.37
MH7THM-5605	3.80	0.06	0.41	18.50	-1.60	-1.06	12.00	1.36	1.42	11.85
MTMJGR-5605	3.50	-0.24	-1.51	20.50	0.40	0.27	9.80	-0.84	-0.89	9.83
MVT338-5601	3.25	-0.49	-3.10 X	21.00	0.90	0.60	8.92	-1.72	-1.81	8.90
N6EM3X-5601	3.78	0.04	0.28	21.18	1.08	0.72	10.30	-0.34	-0.36	10.28
NDPNNX-5605	3.80	0.06	0.41	15.60	-4.50	-2.99	14.10	3.46	3.63 X	14.10 X
NGRQ89-5605	3.80	0.06	0.41	21.20	1.10	0.73	10.00	-0.64	-0.68	10.33
NJTUWA-5605	4.00	0.26	1.69	20.00	-0.10	-0.07	11.50	0.86	0.90	11.54
NLFJCF-5605	3.90	0.16	1.05	20.10	0.00	0.00	11.20	0.56	0.58	11.19
NMT336-5601	3.66	-0.08	-0.48	19.61	-0.49	-0.32	10.70	0.06	0.06	10.76
NTGN97-5601	3.90	0.16	1.05	20.60	0.50	0.33	10.90	0.26	0.27	10.91
P2WMKW-5605	4.00	0.26	1.69	19.00	-1.10	-0.73	12.20	1.56	1.63	12.15
P69NCU-5605	3.78	0.04	0.28	19.38	-0.72	-0.48	12.21	1.57	1.64	11.25
PAP26U-5605	3.70	-0.04	-0.23	21.64	1.54	1.02	9.84	-0.80	-0.84	9.84
PFQBCM-5601	3.70	-0.04	-0.23	20.20	0.10	0.07	10.60	-0.04	-0.05	10.55
PN8PHY-5601	3.60	-0.14	-0.87	21.20	1.10	0.73	10.00	-0.64	-0.68	9.78
PPE8DN-5605	0.66	-3.08	-19.65 X	3.27	-16.83	-11.19 X	12.00	1.36	1.42	11.64
PV2YKG-5601	3.90	0.16	1.05	21.17	1.07	0.71	10.60	-0.04	-0.05	10.62
PZYDAR-5601	3.80	0.06	0.41	20.00	-0.10	-0.07	10.90	0.26	0.27	10.95

TABLE 1

Stain C, continued

WebCode-Test	Width			Length			Angle			
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	*CalcAng*
Q993RW-5601	3.50	-0.24	-1.51	18.00	-2.10	-1.40	11.00	0.36	0.37	11.21
Q9LN8Z-5605	4.00	0.26	1.69	19.50	-0.60	-0.40	11.80	1.16	1.21	11.84
QBEPZU-5605	3.30	-0.44	-2.78	17.30	-2.80	-1.86	11.00	0.36	0.37	11.00
QTU2QZ-5605	3.73	-0.01	-0.04	19.24	-0.86	-0.57	11.20	0.56	0.58	11.18
QVKZ6X-5601	3.60	-0.14	-0.87	21.00	0.90	0.60	9.90	-0.74	-0.78	9.87
QVKZ8J-5605	3.69	-0.05	-0.29	20.54	0.44	0.29	10.00	-0.64	-0.68	10.35
R4A7HW-5605	3.80	0.06	0.41	20.00	-0.10	-0.07	11.00	0.36	0.37	10.95
RFLG6L-5605	4.00	0.26	1.69	24.00	3.90	2.59	9.60	-1.04	-1.10	9.59
RGF7AF-5601	3.60	-0.14	-0.87	21.20	1.10	0.73	9.80	-0.84	-0.89	9.78
RLNRQK-5601	5.00	1.26	8.08 X	19.00	-1.10	-0.73	15.20	4.56	4.78 X	15.26 X
RPNVPY-5601	3.80	0.06	0.41	21.20	1.10	0.73	10.33	-0.31	-0.33	10.33
RPPTXA-5605	3.50	-0.24	-1.51	19.80	-0.30	-0.20	10.20	-0.44	-0.47	10.18
RUJMWV-5601	3.80	0.06	0.41	19.60	-0.50	-0.33	11.20	0.56	0.58	11.18
RWBNYD-5601	3.70	-0.04	-0.23	21.80	1.70	1.13	9.77	-0.87	-0.92	9.77
RYEGWH-5601	3.70	-0.04	-0.23	20.30	0.20	0.13	10.50	-0.14	-0.15	10.50
RZBYUD-5601	3.70	-0.04	-0.23	21.00	0.90	0.60	10.15	-0.49	-0.52	10.15
T2ZFRR-5601	3.70	-0.04	-0.23	18.50	-1.60	-1.06	11.00	0.36	0.37	11.54
TAT3BB-5605	19.41	15.67	100.13X	3.82	-16.28	-10.82 X	11.36	0.72	0.75	X
TELVRL-5605	0.74	-3.00	-19.14 X	4.20	-15.90	-10.57 X	10.10	-0.54	-0.57	10.15

TABLE 1

Stain C, continued

WebCode-Test	Width			Length			Angle			
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	*CalcAng*
THHNGA-5605	3.75	0.01	0.09	19.75	-0.35	-0.23	10.94	0.30	0.31	10.95
TM2GWH-5605	3.70	-0.04	-0.23	21.00	0.90	0.60	10.10	-0.54	-0.57	10.15
TYVWLJ-5605	4.10	0.36	2.33	18.80	-1.30	-0.86	12.80	2.16	2.26	12.60
U8J6L2-5601	3.60	-0.14	-0.87	22.70	2.60	1.73	9.00	-1.64	-1.73	9.13
UK8ATX-5605	3.50	-0.24	-1.51	20.00	-0.10	-0.07	10.00	-0.64	-0.68	10.08
UK9828-5605	3.70	-0.04	-0.23	19.30	-0.80	-0.53	11.00	0.36	0.37	11.05
UQCZ8W-5605	3.50	-0.24	-1.51	21.00	0.90	0.60	9.60	-1.04	-1.10	9.59
UZ2UER-5601	3.75	0.01	0.09	19.50	-0.60	-0.40	11.09	0.45	0.47	11.09
V3JFFD-5601	3.74	0.00	0.03	21.77	1.67	1.11	9.89	-0.75	-0.79	9.89
V6CAE3-5605	3.60	-0.14	-0.87	20.20	0.10	0.07	10.00	-0.64	-0.68	10.27
VZGFJM-5601	3.50	-0.24	-1.51	21.00	0.90	0.60	9.59	-1.05	-1.11	9.59
W4UH4X-5605	3.60	-0.14	-0.87	21.70	1.60	1.06	9.50	-1.14	-1.20	9.55
WCKCQU-5605	3.50	-0.24	-1.51	21.60	1.50	1.00	9.30	-1.34	-1.41	9.33
WFPNYG-5605	2.70	-1.04	-6.62 X	14.40	-5.70	-3.79 X	10.80	0.16	0.16	10.81
WPBVUY-5605	3.60	-0.14	-0.87	20.30	0.20	0.13	10.00	-0.64	-0.68	10.21
WZATFE-5605	3.50	-0.24	-1.51	20.10	0.00	0.00	10.00	-0.64	-0.68	10.03
X2ZBW7-5605	3.40	-0.34	-2.14	20.50	0.40	0.27	10.00	-0.64	-0.68	9.55
X7U7XD-5605	3.80	0.06	0.41	19.80	-0.30	-0.20	11.10	0.46	0.48	11.06
X8B3NR-5601	3.70	-0.04	-0.23	19.20	-0.90	-0.60	11.11	0.47	0.49	11.11

TABLE 1

Stain C, continued

WebCode-Test	Width			Length			Angle			
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	*CalcAng*
X8QNV9-5601	**3.60**	-0.14	-0.87	**19.00**	-1.10	-0.73	**10.90**	0.26	0.27	10.92
YADMQH-5601	**3.75**	0.01	0.09	**18.20**	-1.90	-1.26	**11.89**	1.25	1.31	11.89
YMF6CQ-5605	**3.70**	-0.04	-0.23	**21.60**	1.50	1.00	**9.86**	-0.78	-0.82	9.86
YMVGX2-5605	**3.80**	0.06	0.41	**20.20**	0.10	0.07	**11.00**	0.36	0.37	10.84
YVEGWM-5605	**3.00**	-0.74	-4.70 X	**10.00**	-10.10	-6.71 X	**17.40**	6.76	7.09 X	17.46 X
ZA4BHC-5601	**3.70**	-0.04	-0.23	**19.90**	-0.20	-0.13	**10.70**	0.06	0.06	10.72
ZB3BMH-5605	**3.40**	-0.34	-2.14	**19.50**	-0.60	-0.40	**10.00**	-0.64	-0.68	10.04
ZHKLXY-5605	**3.80**	0.06	0.41	**21.30**	1.20	0.80	**10.30**	-0.34	-0.36	10.28
ZJR4U9-5601	**3.92**	0.18	1.18	**21.16**	1.06	0.71	**10.68**	0.04	0.04	10.68
ZLJXUX-5605	**3.70**	-0.04	-0.23	**18.80**	-1.30	-0.86	**11.35**	0.71	0.74	11.35
ZRPQQE-5601	**3.72**	-0.02	-0.10	**20.69**	0.59	0.39	**10.40**	-0.24	-0.26	10.36
ZY4QVQ-5601	**3.50**	-0.24	-1.51	**22.00**	1.90	1.26	**9.00**	-1.64	-1.73	9.15
Grand Mean	**3.74**			**20.10**			**10.64**			**10.64**
Standard Deviation	**0.16**			**1.50**			**0.95**			**0.94**
Participants Included in calculations	164			173			180			178
Participants excluded from calculations (indicated by X)	19			10			3			5

Stain C Preparation Angle: 10.9°

TABLE 1

Stain D

WebCode-Test	Width			Length			Angle			
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	*CalcAng*
22R92H-5605	2.40	-0.01	-0.08	6.40	-0.62	-1.40	22.00	1.69	1.00	22.02
22T9WB-5601	2.32	-0.09	-0.60	6.93	-0.09	-0.21	19.56	-0.75	-0.44	19.56
29QVQW-5605	2.75	0.34	2.19	7.00	-0.02	-0.05	23.10	2.79	1.65	23.13
2DY9KN-5605	2.40	-0.01	-0.08	6.20	-0.82	-1.86	23.00	2.69	1.59	22.77
2GYJFN-5601	2.25	-0.16	-1.05	6.50	-0.52	-1.18	20.30	-0.01	-0.01	20.25
2QTD22-5601	2.20	-0.21	-1.38	7.00	-0.02	-0.05	18.30	-2.01	-1.19	18.32
2V3VX9-5605	2.40	-0.01	-0.08	6.40	-0.62	-1.40	22.00	1.69	1.00	22.02
32KLW9-5601	2.40	-0.01	-0.08	7.00	-0.02	-0.05	20.10	-0.21	-0.12	20.05
36LPQG-5605	2.11	-0.30	-1.96	7.61	0.59	1.33	16.10	-4.21	-2.49	16.10
38A2N2-5605	2.30	-0.11	-0.73	6.60	-0.42	-0.95	20.00	-0.31	-0.18	20.39
3EVUY2-5605	2.40	-0.01	-0.08	8.00	0.98	2.21	17.46	-2.85	-1.69	17.46
3KKCDC-5605	2.30	-0.11	-0.73	6.80	-0.22	-0.50	19.80	-0.51	-0.30	19.77
3M4L7A-5605	3.31	0.90	5.83 X	6.41	-0.61	-1.38	19.79	-0.52	-0.31	31.09 X
3NJPZ3-5605	2.40	-0.01	-0.08	7.00	-0.02	-0.05	20.00	-0.31	-0.18	20.05
3NZ446-5605	2.57	0.16	1.02	6.84	-0.18	-0.41	22.00	1.69	1.00	22.07
3WTEFL-5601	2.50	0.09	0.57	3.05	-3.97	-8.97 X	24.19	3.88	2.30	55.05 X
427EDD-5605	2.40	-0.01	-0.08	7.60	0.58	1.31	18.40	-1.91	-1.13	18.41
47YFC7-5605	2.44	0.03	0.18	7.98	0.96	2.17	18.00	-2.31	-1.37	17.80
487ZWZ-5605	2.00	-0.41	-2.68	6.50	-0.52	-1.18	17.90	-2.41	-1.43	17.92

TABLE 1

Stain D, continued

WebCode-Test	Width			Length			Angle			
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	*CalcAng*
48R8PC-5605	2.40	-0.01	-0.08	7.80	0.78	1.76	17.92	-2.39	-1.41	17.92
4AF228-5605	2.20	-0.21	-1.38	6.50	-0.52	-1.18	20.00	-0.31	-0.18	19.78
4BPTC9-5605	2.40	-0.01	-0.08	7.40	0.38	0.86	19.00	-1.31	-0.77	18.92
4GF3L8-5605	2.49	0.08	0.50	6.72	-0.30	-0.68	21.70	1.39	0.82	21.75
4KT793-5601	2.40	-0.01	-0.08	7.20	0.18	0.40	19.47	-0.84	-0.50	19.47
6HMZ9M-5605	1.50	-0.91	-5.92 X	5.50	-1.52	-3.44 X	15.80	-4.51	-2.67	15.83
6MW739-5605	2.50	0.09	0.57	7.00	-0.02	-0.05	21.00	0.69	0.41	20.92
6NCHNK-5601	2.50	0.09	0.57	7.20	0.18	0.40	20.32	0.01	0.01	20.32
6NCHQ6-5605	2.70	0.29	1.87	8.10	1.08	2.44	19.50	-0.81	-0.48	19.47
6R8D6X-5605	2.50	0.09	0.57	6.80	-0.22	-0.50	21.60	1.29	0.76	21.57
6RBTKK-5601	2.40	-0.01	-0.08	7.40	0.38	0.86	18.90	-1.41	-0.83	18.92
6ZNRCA-5605	2.00	-0.41	-2.68	7.00	-0.02	-0.05	16.60	-3.71	-2.20	16.60
77NQZ6-5605	2.20	-0.21	-1.38	6.80	-0.22	-0.50	18.90	-1.41	-0.83	18.88
79CZCQ-5605	2.30	-0.11	-0.73	7.00	-0.02	-0.05	19.00	-1.31	-0.77	19.18
79RB3J-5601	2.40	-0.01	-0.08	8.20	1.18	2.66	17.00	-3.31	-1.96	17.02
7AB7TK-5601	2.50	0.09	0.57	7.40	0.38	0.86	19.75	-0.56	-0.33	19.75
7AM3XP-5605	2.40	-0.01	-0.08	7.40	0.38	0.86	19.00	-1.31	-0.77	18.92
7L2Z6E-5601	2.50	0.09	0.57	7.10	0.08	0.18	20.60	0.29	0.17	20.62
7WYXQT-5605	2.50	0.09	0.57	7.20	0.18	0.40	20.30	-0.01	-0.01	20.32

TABLE 1

Stain D, continued

WebCode-Test	Width			Length			Angle			
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	*CalcAng*
7X9UAC-5605	2.40	-0.01	-0.08	6.60	-0.42	-0.95	21.30	0.99	0.59	21.32
7XD84Z-5601	2.50	0.09	0.57	6.80	-0.22	-0.50	21.60	1.29	0.76	21.57
82NUUB-5601	2.40	-0.01	-0.08	6.70	-0.32	-0.73	20.51	0.20	0.12	20.99
84D7RV-5601	2.49	0.08	0.50	7.02	0.00	0.00	20.76	0.45	0.27	20.78
8MU8NH-5605	2.40	-0.01	-0.08	6.30	-0.72	-1.63	22.40	2.09	1.24	22.39
8PE9GJ-5601	2.50	0.09	0.57	6.00	-1.02	-2.31	24.62	4.31	2.55	24.62
8UBLT9-5605	2.40	-0.01	-0.08	6.60	-0.42	-0.95	21.00	0.69	0.41	21.32
93GYXH-5605	2.00	-0.41	-2.68	6.00	-1.02	-2.31	19.47	-0.84	-0.50	19.47
993Z78-5601	2.35	-0.06	-0.41	6.50	-0.52	-1.18	21.20	0.89	0.53	21.19
9DFQNV-5605	2.44	0.03	0.18	7.67	0.65	1.47	18.50	-1.81	-1.07	18.55
9DJBF6-5601	2.30	-0.11	-0.73	7.10	0.08	0.18	18.90	-1.41	-0.83	18.90
9EV8MV-5605	2.50	0.09	0.57	7.00	-0.02	-0.05	21.00	0.69	0.41	20.92
9M4LPW-5601	2.50	0.09	0.57	7.30	0.28	0.63	20.00	-0.31	-0.18	20.03
9T7WDG-5605	2.00	-0.41	-2.68	7.00	-0.02	-0.05	16.60	-3.71	-2.20	16.60
9VHMQR-5605	2.50	0.09	0.57	6.90	-0.12	-0.27	21.00	0.69	0.41	21.24
A24XG2-5605	2.50	0.09	0.57	7.10	0.08	0.18	20.60	0.29	0.17	20.62
AAW7Z8-5601	2.30	-0.11	-0.73	6.90	-0.12	-0.27	19.47	-0.84	-0.50	19.47
AL8L6Q-5605	2.50	0.09	0.57	7.10	0.08	0.18	20.70	0.39	0.23	20.62
AM2AML-5605	2.40	-0.01	-0.08	7.00	-0.02	-0.05	20.00	-0.31	-0.18	20.05

TABLE 1

Stain D, continued

WebCode-Test	Width			Length			Angle			
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	*CalcAng*
AVVCRJ-5605	2.40	-0.01	-0.08	6.80	-0.22	-0.50	20.70	0.39	0.23	20.67
AVWAZT-5601	2.62	0.21	1.35	7.13	0.11	0.25	21.60	1.29	0.76	21.56
AYWKVT-5601	2.57	0.16	1.02	7.51	0.49	1.10	19.97	-0.34	-0.20	20.01
BFD476-5601	2.50	0.09	0.57	6.20	-0.82	-1.86	23.70	3.39	2.01	23.78
BGBCFB-5601	2.50	0.09	0.57	7.00	-0.02	-0.05	21.00	0.69	0.41	20.92
BPNCPR-5601	2.50	0.09	0.57	7.60	0.58	1.31	19.20	-1.11	-0.66	19.20
BUXLYA-5605	2.40	-0.01	-0.08	7.20	0.18	0.40	19.50	-0.81	-0.48	19.47
BYTAG2-5605	2.37	-0.04	-0.28	6.46	-0.56	-1.27	21.50	1.19	0.71	21.52
C2UPD7-5605	2.55	0.14	0.89	7.20	0.18	0.40	20.70	0.39	0.23	20.74
C2Y38U-5601	2.49	0.08	0.50	7.19	0.17	0.38	20.30	-0.01	-0.01	20.26
C37FT3-5605	1.64	-0.77	-5.02 X	4.71	-2.31	-5.22 X	20.40	0.09	0.05	20.38
C4Y9NK-5601	2.40	-0.01	-0.08	7.20	0.18	0.40	19.50	-0.81	-0.48	19.47
CCCF7A-5605	2.40	-0.01	-0.08	6.50	-0.52	-1.18	22.00	1.69	1.00	21.67
CCV2YZ-5605	3.28	0.87	5.63 X	9.23	2.21	4.99 X	20.80	0.49	0.29	20.82
CFW8D7-5605	2.50	0.09	0.57	6.80	-0.22	-0.50	21.00	0.69	0.41	21.57
CTL769-5601	2.00	-0.41	-2.68	7.00	-0.02	-0.05	16.62	-3.69	-2.18	16.60
CXFXGC-5605	2.28	-0.13	-0.86	7.12	0.10	0.22	18.68	-1.63	-0.96	18.68
CZY6RR-5605	2.00	-0.41	-2.68	8.00	0.98	2.21	15.00	-5.31	-3.14 X	14.48 X
D72FFC-5601	2.50	0.09	0.57	7.00	-0.02	-0.05	21.00	0.69	0.41	20.92

TABLE 1

Stain D, continued

WebCode-Test	Width			Length			Angle			
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	*CalcAng*
DBGWZ3-5605	2.33	-0.08	-0.54	6.72	-0.30	-0.68	20.29	-0.02	-0.01	20.29
DCE6B8-5605	2.80	0.39	2.52	8.00	0.98	2.21	20.50	0.19	0.11	20.49
DFQ734-5605	2.40	-0.01	-0.08	7.14	0.12	0.27	19.64	-0.67	-0.40	19.64
DK36KP-5601	2.49	0.08	0.50	7.05	0.03	0.06	20.70	0.39	0.23	20.68
DV4PMH-5601	2.65	0.24	1.54	7.61	0.59	1.33	20.38	0.07	0.04	20.38
EF7VPG-5605	1.80	-0.61	-3.98 X	5.30	-1.72	-3.89 X	19.85	-0.46	-0.27	19.85
EF7XG8-5605	2.40	-0.01	-0.08	6.00	-1.02	-2.31	23.60	3.29	1.95	23.58
ENKLDU-5605	2.48	0.07	0.44	6.62	-0.40	-0.91	22.00	1.69	1.00	22.00
EQPCHN-5605	2.20	-0.21	-1.38	5.80	-1.22	-2.76	22.00	1.69	1.00	22.29
FGUUGK-5605	2.60	0.19	1.22	7.60	0.58	1.31	20.00	-0.31	-0.18	20.01
FW7AGV-5605	2.50	0.09	0.57	7.60	0.58	1.31	19.20	-1.11	-0.66	19.20
FW83GN-5605	2.50	0.09	0.57	6.90	-0.12	-0.27	20.90	0.59	0.35	21.24
FZ7KDV-5605	2.49	0.08	0.50	6.46	-0.56	-1.27	22.67	2.36	1.40	22.67
G2FRFN-5605	2.60	0.19	1.22	7.50	0.48	1.08	20.00	-0.31	-0.18	20.28
G477LD-5605	2.50	0.09	0.57	7.50	0.48	1.08	19.00	-1.31	-0.77	19.47
GBPAV2-5601	2.58	0.17	1.09	7.52	0.50	1.13	20.06	-0.25	-0.15	20.06
GDRARR-5605	2.50	0.09	0.57	7.30	0.28	0.63	20.00	-0.31	-0.18	20.03
GMZKJQ-5601	2.30	-0.11	-0.73	7.00	-0.02	-0.05	19.18	-1.13	-0.67	19.18
GP4DHV-5605	41.60	39.19	254.44X	111.50	104.48	236.09X	21.90	1.59	0.94	21.91

TABLE 1

Stain D, continued

WebCode-Test	Width			Length			Angle			
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	*CalcAng*
GT4NDV-5605	2.73	0.32	2.06	7.49	0.47	1.06	21.40	1.09	0.65	21.38
GY9MMZ-5601	2.40	-0.01	-0.08	6.50	-0.52	-1.18	21.60	1.29	0.76	21.67
HN7K23-5605	2.20	-0.21	-1.38	7.00	-0.02	-0.05	18.30	-2.01	-1.19	18.32
HTHLTZ-5605	2.00	-0.41	-2.68	7.00	-0.02	-0.05	17.00	-3.31	-1.96	16.60
HW3JA4-5605	2.50	0.09	0.57	6.60	-0.42	-0.95	22.00	1.69	1.00	22.26
J2AACA-5605	3.10	0.69	4.46 X	7.60	0.58	1.31	24.10	3.79	2.24	24.07
JEWGAB-5601	2.60	0.19	1.22	7.30	0.28	0.63	20.90	0.59	0.35	20.86
JQALEK-5601	2.20	-0.21	-1.38	6.50	-0.52	-1.18	19.80	-0.51	-0.30	19.78
K8VHGZ-5601	2.30	-0.11	-0.73	7.30	0.28	0.63	18.00	-2.31	-1.37	18.36
K9RXNQ-5605	2.30	-0.11	-0.73	6.80	-0.22	-0.50	19.80	-0.51	-0.30	19.77
KDV4ZM-5605	2.50	0.09	0.57	6.90	-0.12	-0.27	21.00	0.69	0.41	21.24
KFA9XK-5601	2.50	0.09	0.57	7.20	0.18	0.40	20.30	-0.01	-0.01	20.32
KHRPTB-5601	2.50	0.09	0.57	7.00	-0.02	-0.05	20.90	0.59	0.35	20.92
LBPY7Y-5601	2.40	-0.01	-0.08	6.80	-0.22	-0.50	21.00	0.69	0.41	20.67
LLPK4X-5605	2.54	0.13	0.83	7.37	0.34	0.78	20.10	-0.21	-0.12	20.17
LNBFTB-5605	2.35	-0.06	-0.41	7.00	-0.02	-0.05	19.62	-0.69	-0.41	19.62
LYUUTT-5605	2.30	-0.11	-0.73	6.90	-0.12	-0.27	19.50	-0.81	-0.48	19.47
M4LDC3-5605	2.20	-0.21	-1.38	5.40	-1.62	-3.66 X	24.00	3.69	2.18	24.04
M9X3DY-5601	2.60	0.19	1.22	7.60	0.58	1.31	20.00	-0.31	-0.18	20.01

TABLE 1

Stain D, continued

WebCode-Test	Width			Length			Angle			
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	*CalcAng*
MC2XYM-5605	2.40	-0.01	-0.08	7.00	-0.02	-0.05	20.00	-0.31	-0.18	20.05
MH7THM-5605	2.50	0.09	0.57	6.60	-0.42	-0.95	22.00	1.69	1.00	22.26
MTMJGR-5605	2.00	-0.41	-2.68	7.25	0.23	0.52	16.00	-4.31	-2.55	16.01
MVT338-5601	2.00	-0.41	-2.68	7.10	0.08	0.18	16.38	-3.93	-2.33	16.36
N6EM3X-5601	2.65	0.24	1.54	7.35	0.33	0.74	21.10	0.79	0.47	21.13
NDPNNX-5605	2.20	-0.21	-1.38	6.00	-1.02	-2.31	21.50	1.19	0.71	21.51
NGRQ89-5605	2.50	0.09	0.57	6.90	-0.12	-0.27	21.00	0.69	0.41	21.24
NJTUWA-5605	2.50	0.09	0.57	7.00	-0.02	-0.05	20.90	0.59	0.35	20.92
NLFJCF-5605	2.40	-0.01	-0.08	7.20	0.18	0.40	19.50	-0.81	-0.48	19.47
NMT336-5601	2.39	-0.02	-0.15	7.12	0.10	0.22	19.60	-0.71	-0.42	19.61
NTGN97-5601	2.80	0.39	2.52	6.60	-0.42	-0.95	25.10	4.79	2.84	25.10
P2WMKW-5605	2.50	0.09	0.57	7.00	-0.02	-0.05	20.90	0.59	0.35	20.92
P69NCU-5605	2.42	0.01	0.05	7.13	0.11	0.25	20.80	0.49	0.29	19.84
PAP26U-5605	2.39	-0.02	-0.15	7.60	0.58	1.31	18.33	-1.98	-1.17	18.33
PFQBCM-5601	2.40	-0.01	-0.08	6.70	-0.32	-0.73	21.00	0.69	0.41	20.99
PN8PHY-5601	2.40	-0.01	-0.08	7.40	0.38	0.86	19.00	-1.31	-0.77	18.92
PPE8DN-5605	0.57	-1.84	-11.96 X	1.61	-5.41	-12.23 X	21.00	0.69	0.41	20.73
PV2YKG-5601	2.55	0.14	0.89	7.31	0.29	0.65	20.40	0.09	0.05	20.42
PZYDAR-5601	2.30	-0.11	-0.73	6.60	-0.42	-0.95	20.30	-0.01	-0.01	20.39

TABLE 1

Stain D, continued

WebCode-Test	Width			Length			Angle			
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	*CalcAng*
Q993RW-5601	2.50	0.09	0.57	6.00	-1.02	-2.31	25.00	4.69	2.78	24.62
Q9LN8Z-5605	2.50	0.09	0.57	7.00	-0.02	-0.05	20.90	0.59	0.35	20.92
QBEPZU-5605	2.10	-0.31	-2.03	5.30	-1.72	-3.89 X	23.00	2.69	1.59	23.34
QTU2QZ-5605	2.44	0.03	0.18	6.88	-0.14	-0.32	20.80	0.49	0.29	20.77
QVKZ6X-5601	2.20	-0.21	-1.38	7.20	0.18	0.40	17.80	-2.51	-1.48	17.79
QVKZ8J-5605	2.44	0.03	0.18	6.96	-0.06	-0.14	20.00	-0.31	-0.18	20.52
R4A7HW-5605	2.50	0.09	0.57	7.00	-0.02	-0.05	20.90	0.59	0.35	20.92
RFLG6L-5605	2.50	0.09	0.57	8.00	0.98	2.21	18.20	-2.11	-1.25	18.21
RGF7AF-5601	2.40	-0.01	-0.08	7.00	-0.02	-0.05	20.10	-0.21	-0.12	20.05
RLNRQK-5601	3.00	0.59	3.81 X	7.00	-0.02	-0.05	25.30	4.99	2.95	25.38 X
RPNVPY-5601	2.40	-0.01	-0.08	7.50	0.48	1.08	18.66	-1.65	-0.98	18.66
RPPTXA-5605	2.30	-0.11	-0.73	7.00	-0.02	-0.05	19.20	-1.11	-0.66	19.18
RUJMWV-5601	2.50	0.09	0.57	6.50	-0.52	-1.18	22.60	2.29	1.36	22.62
RWBNYD-5601	2.40	-0.01	-0.08	7.50	0.48	1.08	18.66	-1.65	-0.98	18.66
RYEGWH-5601	2.40	-0.01	-0.08	6.50	-0.52	-1.18	21.67	1.36	0.81	21.67
RZBYUD-5601	2.40	-0.01	-0.08	6.90	-0.12	-0.27	20.35	0.04	0.02	20.35
T2ZFRR-5601	2.70	0.29	1.87	7.00	-0.02	-0.05	23.00	2.69	1.59	22.69
TAT3BB-5605	6.82	4.41	28.62 X	2.47	-4.55	-10.28 X	21.23	0.92	0.55	X
TELVRL-5605	0.53	-1.88	-12.22 X	1.62	-5.40	-12.21 X	19.10	-1.21	-0.72	19.10

TABLE 1

Stain D, continued

WebCode-Test	Width			Length			Angle			
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	*CalcAng*
THHNGA-5605	2.50	0.09	0.57	7.50	0.48	1.08	19.47	-0.84	-0.50	19.47
TM2GWH-5605	2.40	-0.01	-0.08	7.20	0.18	0.40	19.50	-0.81	-0.48	19.47
TYVWLJ-5605	2.50	0.09	0.57	7.10	0.08	0.18	20.90	0.59	0.35	20.62
U8J6L2-5601	2.40	-0.01	-0.08	7.80	0.78	1.76	18.00	-2.31	-1.37	17.92
UK8ATX-5605	2.50	0.09	0.57	7.60	0.58	1.31	19.20	-1.11	-0.66	19.20
UK9828-5605	2.50	0.09	0.57	7.00	-0.02	-0.05	21.00	0.69	0.41	20.92
UQCZ8W-5605	2.30	-0.11	-0.73	6.50	-0.52	-1.18	20.70	0.39	0.23	20.72
UZ2UER-5601	2.25	-0.16	-1.05	6.50	-0.52	-1.18	20.25	-0.06	-0.03	20.25
V3JFFD-5601	2.47	0.06	0.37	6.99	-0.03	-0.07	20.70	0.39	0.23	20.69
V6CAE3-5605	2.40	-0.01	-0.08	7.00	-0.02	-0.05	20.00	-0.31	-0.18	20.05
VZGFJM-5601	2.50	0.09	0.57	7.00	-0.02	-0.05	20.90	0.59	0.35	20.92
W4UH4X-5605	2.40	-0.01	-0.08	7.00	-0.02	-0.05	20.10	-0.21	-0.12	20.05
WCKCQU-5605	2.30	-0.11	-0.73	6.80	-0.22	-0.50	19.80	-0.51	-0.30	19.77
WFPNYG-5605	3.40	0.99	6.41 X	9.90	2.88	6.50 X	20.10	-0.21	-0.12	20.09
WPBVUY-5605	2.50	0.09	0.57	7.20	0.18	0.40	20.00	-0.31	-0.18	20.32
WZATFE-5605	2.20	-0.21	-1.38	7.20	0.18	0.40	17.80	-2.51	-1.48	17.79
X2ZBW7-5605	2.50	0.09	0.57	7.50	0.48	1.08	19.00	-1.31	-0.77	19.47
X7U7XD-5605	2.40	-0.01	-0.08	7.00	-0.02	-0.05	20.40	0.09	0.05	20.05
X8B3NR-5601	2.40	-0.01	-0.08	6.60	-0.42	-0.95	21.32	1.01	0.60	21.32

TABLE 1

Stain D, continued

WebCode-Test	Width			Length			Angle			
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	*CalcAng*
X8QNV9-5601	2.40	-0.01	-0.08	7.00	-0.02	-0.05	20.10	-0.21	-0.12	20.05
YADMQH-5601	2.50	0.09	0.57	6.50	-0.52	-1.18	22.62	2.31	1.37	22.62
YMF6CQ-5605	2.40	-0.01	-0.08	6.70	-0.32	-0.73	20.99	0.68	0.40	20.99
YMVGX2-5605	2.46	0.05	0.31	6.94	-0.08	-0.18	21.00	0.69	0.41	20.76
YVEGWM-5605	3.00	0.59	3.81 X	5.00	-2.02	-4.57 X	36.80	16.49	9.76 X	36.87 X
ZA4BHC-5601	2.40	-0.01	-0.08	6.90	-0.12	-0.27	20.40	0.09	0.05	20.35
ZB3BMH-5605	2.40	-0.01	-0.08	6.60	-0.42	-0.95	21.30	0.99	0.59	21.32
ZHKLXY-5605	2.50	0.09	0.57	7.20	0.18	0.40	20.30	-0.01	-0.01	20.32
ZJR4U9-5601	2.66	0.25	1.61	7.48	0.46	1.04	20.83	0.52	0.31	20.83
ZLJXUX-5605	2.40	-0.01	-0.08	7.20	0.18	0.40	19.47	-0.84	-0.50	19.47
ZRPQQE-5601	2.47	0.06	0.37	7.18	0.16	0.36	20.10	-0.21	-0.12	20.12
ZY4QVQ-5601	2.50	0.09	0.57	7.00	-0.02	-0.05	21.00	0.69	0.41	20.92
Grand Mean	2.41			7.02			20.31			20.27
Standard Deviation	0.15			0.44			1.69			1.64
Participants Included in calculations	170			170			181			177
Participants excluded from calculations (indicated by X)	13			13			2			6

Stain D Preparation Angle: 22.0°

TABLE 1

Stain E

WebCode-Test	Width			Length			Angle			
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	*CalcAng*
22R92H-5605	2.60	-0.36	-3.80 X	6.40	-0.19	-0.49	24.00	-2.74	-1.48	23.97
22T9WB-5601	2.78	-0.18	-1.91	6.56	-0.03	-0.08	25.10	-1.64	-0.89	25.07
29QVQW-5605	3.50	0.54	5.63 X	7.00	0.41	1.07	30.00	3.26	1.76	30.00
2DY9KN-5605	3.00	0.04	0.39	5.80	-0.79	-2.05	31.00	4.26	2.30	31.15
2GYJFN-5601	2.50	-0.46	-4.85 X	5.50	-1.09	-2.84	27.00	0.26	0.14	27.04
2QTD22-5601	2.90	-0.06	-0.66	6.00	-0.59	-1.53	28.90	2.16	1.16	28.90
2V3VX9-5605	2.70	-0.26	-2.75	6.20	-0.39	-1.01	25.80	-0.94	-0.51	25.82
32KLW9-5601	3.00	0.04	0.39	6.60	0.01	0.03	27.00	0.26	0.14	27.04
36LPQG-5605	2.98	0.02	0.18	14.31	7.72	20.08 X	12.00	-14.74	-7.96 X	12.02 X
38A2N2-5605	2.70	-0.26	-2.75	6.70	0.11	0.29	24.00	-2.74	-1.48	23.76
3EVUY2-5605	3.00	0.04	0.39	7.20	0.61	1.59	24.62	-2.12	-1.15	24.62
3KKCDC-5605	2.70	-0.26	-2.75	6.40	-0.19	-0.49	25.00	-1.74	-0.94	24.95
3M4L7A-5605	3.02	0.06	0.60	6.88	0.29	0.75	26.13	-0.61	-0.33	26.04
3NJPZ3-5605	2.90	-0.06	-0.66	6.40	-0.19	-0.49	27.00	0.26	0.14	26.94
3NZ446-5605	3.14	0.18	1.86	6.95	0.36	0.94	27.00	0.26	0.14	26.86
3WTEFL-5601	3.00	0.04	0.39	2.95	-3.64	-9.47 X	30.56	3.82	2.06	X
427EDD-5605	2.90	-0.06	-0.66	6.80	0.21	0.55	25.24	-1.50	-0.81	25.24
47YFC7-5605	3.02	0.06	0.60	7.12	0.53	1.38	25.00	-1.74	-0.94	25.10
487ZWZ-5605	2.50	-0.46	-4.85 X	6.50	-0.09	-0.23	22.60	-4.14	-2.24	22.62

TABLE 1

Stain E, continued

WebCode-Test	Width			Length			Angle			
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	*CalcAng*
48R8PC-5605	3.00	0.04	0.39	7.20	0.61	1.59	24.62	-2.12	-1.15	24.62
4AF228-5605	3.00	0.04	0.39	6.20	-0.39	-1.01	29.00	2.26	1.22	28.94
4BPTC9-5605	2.90	-0.06	-0.66	7.20	0.61	1.59	24.00	-2.74	-1.48	23.75
4GF3L8-5605	3.02	0.06	0.60	6.61	0.02	0.05	27.20	0.46	0.25	27.19
4KT793-5601	3.00	0.04	0.39	6.60	0.01	0.03	27.04	0.30	0.16	27.04
6HMZ9M-5605	2.00	-0.96	-10.08 X	5.00	-1.59	-4.14 X	23.50	-3.24	-1.75	23.58
6MW739-5605	3.00	0.04	0.39	6.60	0.01	0.03	27.20	0.46	0.25	27.04
6NCHNK-5601	3.00	0.04	0.39	7.00	0.41	1.07	25.38	-1.36	-0.74	25.38
6NCHQ6-5605	3.30	0.34	3.53 X	7.60	1.01	2.63	25.70	-1.04	-0.56	25.74
6R8D6X-5605	3.10	0.14	1.44	6.30	-0.29	-0.75	29.50	2.76	1.49	29.48
6RBTKK-5601	3.00	0.04	0.39	7.00	0.41	1.07	25.40	-1.34	-0.72	25.38
6ZNRCA-5605	2.50	-0.46	-4.85 X	6.50	-0.09	-0.23	22.62	-4.12	-2.22	22.62
77NQZ6-5605	3.00	0.04	0.39	6.40	-0.19	-0.49	28.00	1.26	0.68	27.95
79CZCQ-5605	3.00	0.04	0.39	6.40	-0.19	-0.49	28.00	1.26	0.68	27.95
79RB3J-5601	3.00	0.04	0.39	7.40	0.81	2.11	23.00	-3.74	-2.02	23.92
7AB7TK-5601	3.00	0.04	0.39	7.00	0.41	1.07	25.38	-1.36	-0.74	25.38
7AM3XP-5605	2.90	-0.06	-0.66	6.20	-0.39	-1.01	28.00	1.26	0.68	27.89
7L2Z6E-5601	3.00	0.04	0.39	6.60	0.01	0.03	27.00	0.26	0.14	27.04
7WYXQT-5605	3.00	0.04	0.39	7.00	0.41	1.07	25.40	-1.34	-0.72	25.38

TABLE 1

Stain E, continued

WebCode-Test	Width			Length			Angle			
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	*CalcAng*
7X9UAC-5605	3.00	0.04	0.39	6.30	-0.29	-0.75	28.40	1.66	0.89	28.44
7XD84Z-5601	3.00	0.04	0.39	6.50	-0.09	-0.23	27.50	0.76	0.41	27.49
82NUUB-5601	3.00	0.04	0.39	6.50	-0.09	-0.23	26.50	-0.24	-0.13	27.49
84D7RV-5601	2.94	-0.02	-0.24	6.72	0.13	0.34	25.93	-0.81	-0.44	25.94
8MU8NH-5605	2.90	-0.06	-0.66	6.30	-0.29	-0.75	27.40	0.66	0.35	27.41
8PE9GJ-5601	3.00	0.04	0.39	6.00	-0.59	-1.53	30.00	3.26	1.76	30.00
8UBLT9-5605	2.80	-0.16	-1.70	6.40	-0.19	-0.49	26.00	-0.74	-0.40	25.94
93GYXH-5605	2.00	-0.96	-10.08 X	5.00	-1.59	-4.14 X	23.58	-3.16	-1.71	23.58
993Z78-5601	2.90	-0.06	-0.66	5.90	-0.69	-1.79	29.40	2.66	1.43	29.44
9DFQNV-5605	2.83	-0.13	-1.39	7.51	0.92	2.39	22.10	-4.64	-2.51	22.14
9DJBF6-5601	2.80	-0.16	-1.70	6.70	0.11	0.29	24.70	-2.04	-1.10	24.70
9EV8MV-5605	3.10	0.14	1.44	6.90	0.31	0.81	27.00	0.26	0.14	26.70
9M4LPW-5601	3.00	0.04	0.39	6.50	-0.09	-0.23	27.50	0.76	0.41	27.49
9T7WDG-5605	3.00	0.04	0.39	6.00	-0.59	-1.53	30.00	3.26	1.76	30.00
9VHMQR-5605	3.10	0.14	1.44	6.80	0.21	0.55	27.00	0.26	0.14	27.12
A24XG2-5605	3.00	0.04	0.39	6.50	-0.09	-0.23	27.50	0.76	0.41	27.49
AAW7Z8-5601	2.90	-0.06	-0.66	6.10	-0.49	-1.27	28.39	1.65	0.89	28.39
AL8L6Q-5605	3.10	0.14	1.44	6.70	0.11	0.29	27.00	0.26	0.14	27.56
AM2AML-5605	2.90	-0.06	-0.66	6.70	0.11	0.29	26.00	-0.74	-0.40	25.65

TABLE 1

Stain E, continued

WebCode-Test	Width			Length			Angle			
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	*CalcAng*
AVVCRJ-5605	**3.00**	0.04	0.39	**6.40**	-0.19	-0.49	**28.00**	1.26	0.68	27.95
AVWAZT-5601	**3.19**	0.23	2.38	**6.79**	0.20	0.52	**28.10**	1.36	0.73	28.02
AYWKVT-5601	**3.06**	0.10	1.02	**7.07**	0.48	1.25	**25.62**	-1.12	-0.61	25.65
BFD476-5601	**3.00**	0.04	0.39	**6.10**	-0.49	-1.27	**29.40**	2.66	1.43	29.46
BGBCFB-5601	**3.00**	0.04	0.39	**6.80**	0.21	0.55	**26.00**	-0.74	-0.40	26.18
BPNCPR-5601	**3.00**	0.04	0.39	**6.00**	-0.59	-1.53	**30.00**	3.26	1.76	30.00
BUXLYA-5605	**3.00**	0.04	0.39	**6.80**	0.21	0.55	**26.20**	-0.54	-0.29	26.18
BYTAG2-5605	**2.90**	-0.06	-0.66	**6.23**	-0.36	-0.94	**27.80**	1.06	0.57	27.74
C2UPD7-5605	**3.08**	0.12	1.23	**6.62**	0.03	0.08	**27.70**	0.96	0.52	27.73
C2Y38U-5601	**2.96**	0.00	-0.03	**6.76**	0.17	0.44	**26.00**	-0.74	-0.40	25.97
C37FT3-5605	**2.02**	-0.94	-9.87 X	**4.46**	-2.13	-5.54 X	**26.90**	0.16	0.09	26.93
C4Y9NK-5601	**2.90**	-0.06	-0.66	**7.00**	0.41	1.07	**24.50**	-2.24	-1.21	24.47
CCCF7A-5605	**3.00**	0.04	0.39	**6.40**	-0.19	-0.49	**28.00**	1.26	0.68	27.95
CCV2YZ-5605	**3.85**	0.89	9.29 X	**8.78**	2.19	5.70 X	**26.00**	-0.74	-0.40	26.01
CFW8D7-5605	**3.00**	0.04	0.39	**6.50**	-0.09	-0.23	**27.20**	0.46	0.25	27.49
CTL769-5601	**3.00**	0.04	0.39	**6.50**	-0.09	-0.23	**27.52**	0.78	0.42	27.49
CXFXGC-5605	**2.76**	-0.20	-2.12	**6.53**	-0.06	-0.16	**25.00**	-1.74	-0.94	25.00
CZY6RR-5605	**3.00**	0.04	0.39	**7.00**	0.41	1.07	**25.00**	-1.74	-0.94	25.38
D72FFC-5601	**3.00**	0.04	0.39	**6.50**	-0.09	-0.23	**28.00**	1.26	0.68	27.49

TABLE 1

Stain E, continued

WebCode-Test	Width			Length			Angle			
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	*CalcAng*
DBGWZ3-5605	2.98	0.02	0.18	6.36	-0.23	-0.60	27.94	1.20	0.65	27.94
DCE6B8-5605	3.40	0.44	4.58 X	7.20	0.61	1.59	28.20	1.46	0.79	28.18
DFQ734-5605	2.86	-0.10	-1.08	6.70	0.11	0.29	25.26	-1.48	-0.80	25.27
DK36KP-5601	2.91	-0.05	-0.55	6.46	-0.13	-0.34	26.80	0.06	0.03	26.77
DV4PMH-5601	3.00	0.04	0.39	7.38	0.79	2.05	23.98	-2.76	-1.49	23.99
EF7VPG-5605	2.00	-0.96	-10.08 X	4.80	-1.79	-4.66 X	24.62	-2.12	-1.15	24.62
EF7XG8-5605	2.80	-0.16	-1.70	6.20	-0.39	-1.01	26.80	0.06	0.03	26.85
ENKLDU-5605	2.99	0.03	0.29	6.35	-0.24	-0.62	28.00	1.26	0.68	28.09
EQPCHN-5605	2.80	-0.16	-1.70	5.80	-0.79	-2.05	29.00	2.26	1.22	28.87
FGUUGK-5605	3.00	0.04	0.39	7.00	0.41	1.07	25.40	-1.34	-0.72	25.38
FW7AGV-5605	3.00	0.04	0.39	7.00	0.41	1.07	25.37	-1.37	-0.74	25.38
FW83GN-5605	3.00	0.04	0.39	6.40	-0.19	-0.49	28.00	1.26	0.68	27.95
FZ7KDV-5605	2.91	-0.05	-0.55	6.36	-0.23	-0.60	27.22	0.48	0.26	27.23
G2FRFN-5605	3.10	0.14	1.44	7.00	0.41	1.07	26.00	-0.74	-0.40	26.29
G477LD-5605	3.00	0.04	0.39	7.00	0.41	1.07	25.00	-1.74	-0.94	25.38
GBPAV2-5601	3.00	0.04	0.39	7.34	0.75	1.95	24.12	-2.62	-1.42	24.12
GDRARR-5605	3.00	0.04	0.39	6.60	0.01	0.03	27.00	0.26	0.14	27.04
GMZKJQ-5601	2.90	-0.06	-0.66	6.80	0.21	0.55	25.24	-1.50	-0.81	25.24
GP4DHV-5605	49.30	46.34	485.30X	102.10	95.51	248.42X	28.90	2.16	1.16	28.87

TABLE 1

Stain E, continued

WebCode-Test	Width			Length			Angle			
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	*CalcAng*
GT4NDV-5605	3.64	0.68	7.09 X	7.88	1.29	3.36 X	27.50	0.76	0.41	27.51
GY9MMZ-5601	3.00	0.04	0.39	5.70	-0.89	-2.31	31.70	4.96	2.68	31.76
HN7K23-5605	3.00	0.04	0.39	6.00	-0.59	-1.53	30.00	3.26	1.76	30.00
HTHLTZ-5605	3.00	0.04	0.39	6.00	-0.59	-1.53	25.00	-1.74	-0.94	30.00
HW3JA4-5605	2.00	-0.96	-10.08 X	5.80	-0.79	-2.05	20.00	-6.74	-3.64 X	20.17 X
J2AACA-5605	3.00	0.04	0.39	7.30	0.71	1.85	24.30	-2.44	-1.32	24.27
JEWGAB-5601	3.00	0.04	0.39	6.80	0.21	0.55	26.20	-0.54	-0.29	26.18
JQALEK-5601	2.90	-0.06	-0.66	6.00	-0.59	-1.53	28.90	2.16	1.16	28.90
K8VHGZ-5601	2.80	-0.16	-1.70	6.80	0.21	0.55	24.00	-2.74	-1.48	24.32
K9RXNQ-5605	3.00	0.04	0.39	6.60	0.01	0.03	27.00	0.26	0.14	27.04
KDV4ZM-5605	3.00	0.04	0.39	6.50	-0.09	-0.23	27.00	0.26	0.14	27.49
KFA9XK-5601	3.00	0.04	0.39	6.50	-0.09	-0.23	27.50	0.76	0.41	27.49
KHRPTB-5601	3.10	0.14	1.44	6.80	0.21	0.55	27.10	0.36	0.19	27.12
LBPY7Y-5601	2.90	-0.06	-0.66	6.00	-0.59	-1.53	29.00	2.26	1.22	28.90
LLPK4X-5605	3.05	0.09	0.89	6.60	0.01	0.04	27.40	0.66	0.35	27.49
LNBFTB-5605	2.95	-0.01	-0.13	6.55	-0.04	-0.10	26.77	0.03	0.02	26.77
LYUUTT-5605	2.90	-0.06	-0.66	6.80	0.21	0.55	25.20	-1.54	-0.83	25.24
M4LDC3-5605	2.60	-0.36	-3.80 X	5.40	-1.19	-3.10 X	28.80	2.06	1.11	28.78
M9X3DY-5601	3.00	0.04	0.39	6.80	0.21	0.55	26.00	-0.74	-0.40	26.18

TABLE 1

Stain E, continued

WebCode-Test	Width			Length			Angle			
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	*CalcAng*
MC2XYM-5605	3.00	0.04	0.39	6.00	-0.59	-1.53	30.00	3.26	1.76	30.00
MH7THM-5605	3.00	0.04	0.39	6.20	-0.39	-1.01	29.00	2.26	1.22	28.94
MTMJGR-5605	2.75	-0.21	-2.23	6.75	0.16	0.42	24.00	-2.74	-1.48	24.04
MVT338-5601	2.75	-0.21	-2.23	7.00	0.41	1.07	23.14	-3.60	-1.94	23.13
N6EM3X-5601	3.12	0.16	1.65	6.74	0.15	0.39	27.60	0.86	0.46	27.57
NDPNNX-5605	3.00	0.04	0.39	6.20	-0.39	-1.01	28.90	2.16	1.16	28.94
NGRQ89-5605	2.90	-0.06	-0.66	6.80	0.21	0.55	25.00	-1.74	-0.94	25.24
NJTUWA-5605	3.00	0.04	0.39	6.50	-0.09	-0.23	27.50	0.76	0.41	27.49
NLFJCF-5605	2.90	-0.06	-0.66	6.70	0.11	0.29	25.60	-1.14	-0.62	25.65
NMT336-5601	2.85	-0.11	-1.18	6.60	0.01	0.03	25.50	-1.24	-0.67	25.58
NTGN97-5601	3.30	0.34	3.53 X	6.50	-0.09	-0.23	30.50	3.76	2.03	30.51
P2WMKW-5605	3.00	0.04	0.39	6.50	-0.09	-0.23	27.50	0.76	0.41	27.49
P69NCU-5605	3.01	0.05	0.49	6.45	-0.14	-0.36	28.66	1.92	1.03	27.82
PAP26U-5605	2.97	0.01	0.08	7.24	0.65	1.69	24.22	-2.52	-1.36	24.22
PFQBCM-5601	2.90	-0.06	-0.66	6.30	-0.29	-0.75	27.00	0.26	0.14	27.41
PN8PHY-5601	3.00	0.04	0.39	6.80	0.21	0.55	26.00	-0.74	-0.40	26.18
PPE8DN-5605	0.71	-2.25	-23.59 X	1.62	-4.97	-12.93 X	26.00	-0.74	-0.40	25.99
PV2YKG-5601	3.07	0.11	1.12	6.88	0.29	0.75	26.50	-0.24	-0.13	26.50
PZYDAR-5601	2.90	-0.06	-0.66	6.20	-0.39	-1.01	27.80	1.06	0.57	27.89

TABLE 1

Stain E, continued

WebCode-Test	Width			Length			Angle			
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	*CalcAng*
Q993RW-5601	3.00	0.04	0.39	6.00	-0.59	-1.53	30.00	3.26	1.76	30.00
Q9LN8Z-5605	3.00	0.04	0.39	6.50	-0.09	-0.23	27.50	0.76	0.41	27.49
QBEPZU-5605	2.50	-0.46	-4.85 X	4.50	-2.09	-5.44 X	33.00	6.26	3.38 X	33.75 X
QTU2QZ-5605	2.96	0.00	-0.03	6.44	-0.15	-0.39	27.40	0.66	0.35	27.36
QVKZ6X-5601	2.80	-0.16	-1.70	6.60	0.01	0.03	25.10	-1.64	-0.89	25.10
QVKZ8J-5605	2.99	0.03	0.29	6.43	-0.16	-0.42	28.00	1.26	0.68	27.71
R4A7HW-5605	3.00	0.04	0.39	6.80	0.21	0.55	26.20	-0.54	-0.29	26.18
RFLG6L-5605	4.00	1.04	10.86 X	7.00	0.41	1.07	34.90	8.16	4.40 X	34.85 X
RGF7AF-5601	2.90	-0.06	-0.66	6.60	0.01	0.03	26.10	-0.64	-0.35	26.07
RLNRQK-5601	4.00	1.04	10.86 X	8.00	1.41	3.67 X	30.00	3.26	1.76	30.00
RPNVPY-5601	3.00	0.04	0.39	7.00	0.41	1.07	25.38	-1.36	-0.74	25.38
RPPTXA-5605	2.90	-0.06	-0.66	6.50	-0.09	-0.23	26.40	-0.34	-0.18	26.50
RUJMWV-5601	3.00	0.04	0.39	6.10	-0.49	-1.27	29.50	2.76	1.49	29.46
RWBNYD-5601	3.00	0.04	0.39	7.00	0.41	1.07	25.38	-1.36	-0.74	25.38
RYEGWH-5601	2.80	-0.16	-1.70	6.10	-0.49	-1.27	27.32	0.58	0.31	27.32
RZBYUD-5601	3.00	0.04	0.39	6.60	0.01	0.03	27.04	0.30	0.16	27.04
T2ZFRR-5601	3.20	0.24	2.48	7.20	0.61	1.59	26.00	-0.74	-0.40	26.39
TAT3BB-5605	6.40	3.44	36.00 X	2.97	-3.62	-9.42 X	27.63	0.89	0.48	X
TELVRL-5605	0.77	-2.19	-22.97 X	1.80	-4.79	-12.46 X	25.30	-1.44	-0.78	25.33

TABLE 1

Stain E, continued

WebCode-Test	Width			Length			Angle			
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	*CalcAng*
THHNGA-5605	3.00	0.04	0.39	6.50	-0.09	-0.23	27.49	0.75	0.40	27.49
TM2GWH-5605	2.90	-0.06	-0.66	6.90	0.31	0.81	24.90	-1.84	-0.99	24.85
TYVWLJ-5605	3.00	0.04	0.39	6.70	0.11	0.29	26.10	-0.64	-0.35	26.60
U8J6L2-5601	3.00	0.04	0.39	7.00	0.41	1.07	25.00	-1.74	-0.94	25.38
UK8ATX-5605	3.00	0.04	0.39	6.80	0.21	0.55	26.20	-0.54	-0.29	26.18
UK9828-5605	3.10	0.14	1.44	6.80	0.21	0.55	27.00	0.26	0.14	27.12
UQCZ8W-5605	3.00	0.04	0.39	7.00	0.41	1.07	25.40	-1.34	-0.72	25.38
UZ2UER-5601	2.75	-0.21	-2.23	6.75	0.16	0.42	24.04	-2.70	-1.46	24.04
V3JFFD-5601	3.06	0.10	1.02	6.71	0.12	0.31	27.10	0.36	0.19	27.13
V6CAE3-5605	2.90	-0.06	-0.66	6.60	0.01	0.03	26.00	-0.74	-0.40	26.07
VZGFJM-5601	3.00	0.04	0.39	6.50	-0.09	-0.23	27.50	0.76	0.41	27.49
W4UH4X-5605	2.90	-0.06	-0.66	6.90	0.31	0.81	24.90	-1.84	-0.99	24.85
WCKCQU-5605	3.00	0.04	0.39	6.10	-0.49	-1.27	29.50	2.76	1.49	29.46
WFPNYG-5605	4.45	1.49	15.58 X	9.61	3.02	7.85 X	27.60	0.86	0.46	27.58
WPBVUY-5605	3.10	0.14	1.44	6.90	0.31	0.81	27.00	0.26	0.14	26.70
WZATFE-5605	2.80	-0.16	-1.70	6.60	0.01	0.03	25.10	-1.64	-0.89	25.10
X2ZBW7-5605	3.00	0.04	0.39	6.20	-0.39	-1.01	29.00	2.26	1.22	28.94
X7U7XD-5605	3.00	0.04	0.39	6.50	-0.09	-0.23	27.20	0.46	0.25	27.49
X8B3NR-5601	3.00	0.04	0.39	6.20	-0.39	-1.01	28.94	2.20	1.19	28.94

TABLE 1

Stain E, continued

WebCode-Test	Width			Length			Angle			
	mm	Diff	CPV	mm	Diff	CPV	Deg.	Diff	CPV	*CalcAng*
X8QNV9-5601	**2.80**	-0.16	-1.70	**6.60**	0.01	0.03	**25.10**	-1.64	-0.89	25.10
YADMQH-5601	**3.00**	0.04	0.39	**5.75**	-0.84	-2.18	**31.45**	4.71	2.54	31.45
YMF6CQ-5605	**3.00**	0.04	0.39	**6.20**	-0.39	-1.01	**28.94**	2.20	1.19	28.94
YMVGX2-5605	**3.01**	0.05	0.49	**6.58**	-0.01	-0.03	**27.00**	0.26	0.14	27.22
YVEGWM-5605	**3.00**	0.04	0.39	**5.00**	-1.59	-4.14 X	**36.80**	10.06	5.43 X	36.87 X
ZA4BHC-5601	**2.90**	-0.06	-0.66	**6.60**	0.01	0.03	**26.10**	-0.64	-0.35	26.07
ZB3BMH-5605	**2.70**	-0.26	-2.75	**6.30**	-0.29	-0.75	**25.40**	-1.34	-0.72	25.38
ZHKLXY-5605	**3.00**	0.04	0.39	**6.60**	0.01	0.03	**27.00**	0.26	0.14	27.04
ZJR4U9-5601	**3.18**	0.22	2.28	**7.03**	0.44	1.14	**26.89**	0.15	0.08	26.89
ZLJXUX-5605	**2.80**	-0.16	-1.70	**6.40**	-0.19	-0.49	**25.94**	-0.80	-0.43	25.94
ZRPQQE-5601	**2.88**	-0.08	-0.87	**6.64**	0.05	0.13	**25.70**	-1.04	-0.56	25.70
ZY4QVQ-5601	**3.00**	0.04	0.39	**7.00**	0.41	1.07	**25.00**	-1.74	-0.94	25.38
Grand Mean	**2.96**			**6.59**			**26.74**			**26.77**
Standard Deviation	**0.10**			**0.38**			**1.85**			**1.83**
Participants Included in calculations	159			166			178			176
Participants excluded from calculations (indicated by X)	24			17			5			7

Stain E Preparation Angle: 29.0°

Pattern Description, Part 1

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

TABLE 2: Single Pattern Recognition

Item 2

WebCode-Test	Pattern Type	WebCode-Test	Pattern Type
22R92H-5605	Expiration Pattern	427EDD-5605	Expiration Pattern
22T9WB-5601	Expiration Pattern	47YFC7-5605	Expiration Pattern
29QVQW-5605	Expiration Pattern	487ZWZ-5605	Expiration Pattern
2DY9KN-5605	Expiration Pattern	48R8PC-5605	Expiration Pattern
2GYJFN-5601	Expiration Pattern	4AF228-5605	Expiration Pattern
2QTD22-5601	Expiration Pattern	4BPTC9-5605	Expiration Pattern
2V3VX9-5605	Expiration Pattern	4GF3L8-5605	Expiration Pattern
32KLW9-5601	Expiration Pattern	4KT793-5601	Expiration Pattern
36LPLB-5601	Expiration Pattern	6HMZ9M-5605	Expiration Pattern
36LPQG-5605	Expiration Pattern	6MW739-5605	Expiration Pattern
38A2N2-5605	Expiration Pattern	6NCHNK-5601	Expiration Pattern
3EVUY2-5605	Expiration Pattern	6NCHQ6-5605	Expiration Pattern
3KKCDC-5605	Expiration Pattern	6R8D6X-5605	Expiration Pattern
3M4L7A-5605	Expiration Pattern	6RBTKK-5601	Expiration Pattern
3NJPZ3-5605	Expiration Pattern	6ZNRCA-5605	Expiration Pattern
3NZ446-5605	Expiration Pattern	77NQZ6-5605	Expiration Pattern
3WTEFL-5601	Expiration Pattern	79CZCQ-5605	Expiration Pattern

TABLE 2: Single Pattern Recognition

Item 2, continued

WebCode-Test	Pattern Type	WebCode-Test	Pattern Type
79RB3J-5601	Impact Pattern	9T7WDG-5605	Expiration Pattern
7AB7TK-5601	Expiration Pattern	9VHMQR-5605	Expiration Pattern
7AM3XP-5605	Expiration Pattern	A24XG2-5605	Expiration Pattern
7L2Z6E-5601	Expiration Pattern	AAW7Z8-5601	Expiration Pattern
7WYXQT-5605	Expiration Pattern	AJ6K7E-5601	Expiration Pattern
7X9UAC-5605	Expiration Pattern	AL8L6Q-5605	Expiration Pattern
7XD84Z-5601	Expiration Pattern	AM2AML-5605	Expiration Pattern
82NUUB-5601	Expiration Pattern	AVVCRJ-5605	Expiration Pattern
84D7RV-5601	Expiration Pattern	AVWAZT-5601	Expiration Pattern
8MU8NH-5605	Expiration Pattern	AYWKVT-5601	Expiration Pattern
8PE9GJ-5601	Expiration Pattern	BFD476-5601	Expiration Pattern
8UBLT9-5605	Expiration Pattern	BGBCFB-5601	Expiration Pattern
8XNNBX-5601	Expiration Pattern	BPNCPR-5601	Expiration Pattern
93GYXH-5605	Expiration Pattern	BRUQDL-5605	Expiration Pattern
993Z78-5601	Expiration Pattern	BUXLYA-5605	Expiration Pattern
9DFQNV-5605	Expiration Pattern	BYTAG2-5605	Expiration Pattern
9DJBF6-5601	Expiration Pattern	C2UPD7-5605	Expiration Pattern
9EV8MV-5605	Expiration Pattern	C2Y38U-5601	Expiration Pattern
9M4LPW-5601	Expiration Pattern	C37FT3-5605	Expiration Pattern

TABLE 2: Single Pattern Recognition

Item 2, continued

WebCode-Test	Pattern Type	WebCode-Test	Pattern Type
C4Y9NK-5601	Expiration Pattern	FGUUGK-5605	Expiration Pattern
CCCF7A-5605	Expiration Pattern	FUJQFX-5601	Expiration Pattern
CCV2YZ-5605	Expiration Pattern	FW7AGV-5605	Expiration Pattern
CFW8D7-5605	Expiration Pattern	FW83GN-5605	Expiration Pattern
CTL769-5601	Expiration Pattern	FZ7KDV-5605	Expiration Pattern
CXFXGC-5605	Expiration Pattern	G2FRFN-5605	Expiration Pattern
CZY6RR-5605	Expiration Pattern	G477LD-5605	Expiration Pattern
D72FFC-5601	Impact Pattern	GBPAV2-5601	Expiration Pattern
D9P6NV-5601	Expiration Pattern	GDRARR-5605	Expiration Pattern
DBGWZ3-5605	Expiration Pattern	GMZKJQ-5601	Expiration Pattern
DCE6B8-5605	Expiration Pattern	GP4DHV-5605	Expiration Pattern
DFQ734-5605	Expiration Pattern	GT4NDV-5605	Expiration Pattern
DK36KP-5601	Expiration Pattern	GY9MMZ-5601	Expiration Pattern
DV4PMH-5601	Expiration Pattern	HN7K23-5605	Expiration Pattern
EF7VPG-5605	Expiration Pattern	HTHLTZ-5605	Expiration Pattern
EF7XG8-5605	Impact Pattern	HW3JA4-5605	Impact Pattern
ENKLDU-5605	Expiration Pattern	J2AACA-5605	Expiration Pattern
EQPCHN-5605	Expiration Pattern	JEWGAB-5601	Expiration Pattern
FC3MXC-5605	Expiration Pattern	JQALEK-5601	Expiration Pattern

TABLE 2: Single Pattern Recognition

Item 2, continued

WebCode-Test	Pattern Type	WebCode-Test	Pattern Type
K8VHGZ-5601	Expiration Pattern	NJTUWA-5605	Expiration Pattern
K9RXNQ-5605	Expiration Pattern	NLFJCF-5605	Expiration Pattern
KDV4ZM-5605	Expiration Pattern	NMT336-5601	Expiration Pattern
KFA9XK-5601	Expiration Pattern	NTGN97-5601	Expiration Pattern
KHRPTB-5601	Expiration Pattern	P2WMKW-5605	Expiration Pattern
LBPY7Y-5601	Expiration Pattern	P69NCU-5605	Expiration Pattern
LLPK4X-5605	Expiration Pattern	PAP26U-5605	Expiration Pattern
LNBFTB-5605	Expiration Pattern	PFQBCM-5601	Expiration Pattern
LYUUTT-5605	Expiration Pattern	PN8PHY-5601	Expiration Pattern
M4LDC3-5605	Expiration Pattern	PPE8DN-5605	Expiration Pattern
M9X3DY-5601	Expiration Pattern	PV2YKG-5601	Expiration Pattern
MC2XYM-5605	Expiration Pattern	PZYDAR-5601	Expiration Pattern
MH7THM-5605	Expiration Pattern	Q993RW-5601	Expiration Pattern
MQYBRP-5605	Expiration Pattern	Q9LN8Z-5605	Expiration Pattern
MTMJGR-5605	Expiration Pattern	QBEPZU-5605	Impact Pattern
MVT338-5601	Expiration Pattern	QTU2QZ-5605	Expiration Pattern
N6EM3X-5601	Expiration Pattern	QVKZ6X-5601	Expiration Pattern
NDPNNX-5605	Expiration Pattern	QVKZ8J-5605	Expiration Pattern
NGRQ89-5605	Expiration Pattern	R4A7HW-5605	Expiration Pattern

TABLE 2: Single Pattern Recognition

Item 2, continued

WebCode-Test	Pattern Type	WebCode-Test	Pattern Type
RFLG6L-5605	Expiration Pattern	UQCZ8W-5605	Expiration Pattern
RGF7AF-5601	Expiration Pattern	UZ2UER-5601	Expiration Pattern
RLNRQK-5601	Cessation Pattern	V3JFFD-5601	Expiration Pattern
RPNVPY-5601	Expiration Pattern	V6CAE3-5605	Expiration Pattern
RPPTXA-5605	Expiration Pattern	VZGFJM-5601	Expiration Pattern
RUJMWV-5601	Expiration Pattern	W4UH4X-5605	Expiration Pattern
RWBNYD-5601	Expiration Pattern	WCKCQU-5605	Expiration Pattern
RYEGWH-5601	Expiration Pattern	WFPNYG-5605	Expiration Pattern
RZBYUD-5601	Expiration Pattern	WMMJT9-5601	Expiration Pattern
T2ZFRR-5601	Expiration Pattern	WNGA3U-5601	Expiration Pattern
TAT3BB-5605	Expiration Pattern	WPBVUY-5605	Expiration Pattern
TELVRL-5605	Expiration Pattern	WZATFE-5605	Expiration Pattern
THHNGA-5605	Expiration Pattern	X2ZBW7-5605	Expiration Pattern
TM2GWH-5605	Expiration Pattern	X7U7XD-5605	Expiration Pattern
TYVWLJ-5605	Expiration Pattern	X8B3NR-5601	Expiration Pattern
U2DCQ6-5601	Expiration Pattern	X8QNV9-5601	Expiration Pattern
U8J6L2-5601	Expiration Pattern	YADMQH-5601	Expiration Pattern
UK8ATX-5605	Expiration Pattern	YMF6CQ-5605	Expiration Pattern
UK9828-5605	Expiration Pattern	YMVGX2-5605	Expiration Pattern

TABLE 2: Single Pattern Recognition

Item 2, continued

WebCode-Test	Pattern Type	WebCode-Test	Pattern Type
YVEGWM-5605	Cast-off Pattern		
ZA4BHC-5601	Expiration Pattern		
ZB3BMH-5605	Expiration Pattern		
ZHKLXY-5605	Expiration Pattern		
ZJR4U9-5601	Expiration Pattern		
ZLJXUX-5605	Expiration Pattern		
ZRPQQE-5601	Expiration Pattern		
ZY4QVQ-5601	Drip Pattern		

Pattern Types reported for Item 2 (Total Participants Responding = 194)

Pattern Type	Percent Reported
Expiration Pattern	186 (95.9%)
Impact Pattern	5 (2.6%)
Cast-off Pattern	1 (0.5%)
Cessation Pattern	1 (0.5%)
Drip Pattern	1 (0.5%)

TABLE 2: Single Pattern Recognition

Item 3

WebCode-Test	Pattern Type	WebCode-Test	Pattern Type
22R92H-5605	Drip Pattern	487ZWZ-5605	Drip Pattern
22T9WB-5601	Drip Pattern	48R8PC-5605	Impact Pattern
29QVQW-5605	Drip Pattern	4AF228-5605	Drip Pattern
2DY9KN-5605	Splash Pattern	4BPTC9-5605	Drip Pattern
2GYJFN-5601	Drip Pattern	4GF3L8-5605	Drip Pattern
2QTD22-5601	Drip Pattern	4KT793-5601	Drip Pattern
2V3VX9-5605	Drip Pattern	6HMZ9M-5605	Drip Pattern
32KLW9-5601	Drip Pattern	6MW739-5605	Drip Pattern
36LPLB-5601	Drip Pattern	6NCHNK-5601	Drip Pattern
36LPQG-5605	Drip Pattern	6NCHQ6-5605	Drip Pattern
38A2N2-5605	Drip Pattern	6R8D6X-5605	Drip Pattern
3EVUY2-5605	Drip Pattern	6RBTKK-5601	Drip Pattern
3KKCDC-5605	Drip Pattern	6ZNRCA-5605	Drip Pattern
3M4L7A-5605	Drip Pattern	77NQZ6-5605	Drip Pattern
3NJPZ3-5605	Drip Pattern	79CZCQ-5605	Drip Pattern
3NZ446-5605	Drip Pattern	79RB3J-5601	Drip Pattern
3WTEFL-5601	Drip Pattern	7AB7TK-5601	Drip Pattern
427EDD-5605	Drip Pattern	7AM3XP-5605	Drip Pattern
47YFC7-5605	Drip Stain	7L2Z6E-5601	Drip Pattern

TABLE 2: Single Pattern Recognition

Item 3, continued

WebCode-Test	Pattern Type	WebCode-Test	Pattern Type
7WYXQT-5605	Drip Pattern	AJ6K7E-5601	Drip Pattern
7X9UAC-5605	Drip Pattern	AL8L6Q-5605	Drip Pattern
7XD84Z-5601	Drip Pattern	AM2AML-5605	Drip Pattern
82NUUB-5601	Drip Stain	AVVCRJ-5605	Drip Pattern
84D7RV-5601	Drip Pattern	AVWAZT-5601	Drip Pattern
8MU8NH-5605	Drip Pattern	AYWKVT-5601	Drip Pattern
8PE9GJ-5601	Splash Pattern	BFD476-5601	Drip Pattern
8UBLT9-5605	Drip Pattern	BGBCFB-5601	Drip Pattern
8XNNBX-5601	Drip Pattern	BPNCPR-5601	Drip Pattern
93GYXH-5605	Drip Pattern	BRUQDL-5605	Drip Pattern
993Z78-5601	Drip Pattern	BUXLYA-5605	Drip Pattern
9DFQNV-5605	Drip Pattern	BYTAG2-5605	Drip Pattern
9DJBF6-5601	Drip Pattern	C2UPD7-5605	Drip Pattern
9EV8MV-5605	Drip Pattern	C2Y38U-5601	Drip Pattern
9M4LPW-5601	Drip Pattern	C37FT3-5605	Drip Pattern
9T7WDG-5605	Drip Pattern	C4Y9NK-5601	Drip Pattern
9VHMQR-5605	Drip Pattern	CCCF7A-5605	Drip Pattern
A24XG2-5605	Drip Pattern	CCV2YZ-5605	Drip Pattern
AAW7Z8-5601	Drip Pattern	CFW8D7-5605	Drip Pattern

TABLE 2: Single Pattern Recognition

Item 3, continued

WebCode-Test	Pattern Type	WebCode-Test	Pattern Type
CTL769-5601	Drip Pattern	FZ7KDV-5605	Drip Pattern
CXFXGC-5605	Drip Pattern	G2FRFN-5605	Drip Pattern
CZY6RR-5605	Drip Pattern	G477LD-5605	Drip Pattern
D72FFC-5601	Drip Pattern	GBPAV2-5601	Drip Pattern
D9P6NV-5601	Drip Pattern	GDRARR-5605	Drip Pattern
DBGWZ3-5605	Drip Pattern	GMZKJQ-5601	Drip Pattern
DCE6B8-5605	Drip Pattern	GP4DHV-5605	Drip Pattern
DFQ734-5605	Drip Pattern	GT4NDV-5605	Drip Pattern
DK36KP-5601	Drip Pattern	GY9MMZ-5601	Drip Pattern
DV4PMH-5601	Drip Pattern	HN7K23-5605	Drip Pattern
EF7VPG-5605	Drip Pattern	HTHLTZ-5605	Drip Pattern
EF7XG8-5605	Drip Pattern	HW3JA4-5605	Drip Pattern
ENKLDU-5605	Drip Pattern	J2AACA-5605	Drip Pattern
EQPCHN-5605	Drip Pattern	JEWGAB-5601	Drip Pattern
FC3MXC-5605	Drip Pattern	JQALEK-5601	Drip Pattern
FGUUGK-5605	Drip Pattern	K8VHGZ-5601	Drip Pattern
FUJQFX-5601	Drip Pattern	K9RXNQ-5605	Drip Pattern
FW7AGV-5605	Drip Pattern	KDV4ZM-5605	Drip Pattern
FW83GN-5605	Drip Stain	KFA9XK-5601	Drip Pattern

TABLE 2: Single Pattern Recognition

Item 3, continued

WebCode-Test	Pattern Type	WebCode-Test	Pattern Type
KHRPTB-5601	Drip Pattern	P2WMKW-5605	Drip Pattern
LBPY7Y-5601	Drip Pattern	P69NCU-5605	Drip Pattern
LLPK4X-5605	Drip Pattern	PAP26U-5605	Drip Pattern
LNBFTB-5605	Drip Pattern	PFQBCM-5601	Drip Pattern
LYUUTT-5605	Drip Pattern	PN8PHY-5601	Drip Pattern
M4LDC3-5605	Drip Pattern	PPE8DN-5605	Drip Pattern
M9X3DY-5601	Drip Pattern	PV2YKG-5601	Drip Pattern
MC2XYM-5605	Drip Pattern	PZYDAR-5601	Drip Pattern
MH7THM-5605	Drip Pattern	Q993RW-5601	Drip Pattern
MQYBRP-5605	Drip Pattern	Q9LN8Z-5605	Drip Pattern
MTMJGR-5605	Drip Pattern	QBEPZU-5605	Drip Pattern
MVT338-5601	Drip Pattern	QTU2QZ-5605	Drip Pattern
N6EM3X-5601	Drip Pattern	QVKZ6X-5601	Drip Pattern
NDPNNX-5605	Drip Pattern	QVKZ8J-5605	Drip Pattern
NGRQ89-5605	Drip Pattern	R4A7HW-5605	Drip Pattern
NJTUWA-5605	Drip Pattern	RFLG6L-5605	Drip Pattern
NLFJCF-5605	Drip Pattern	RGF7AF-5601	Drip Pattern
NMT336-5601	Drip Pattern	RLNRQK-5601	Drip Pattern
NTGN97-5601	Drip Pattern	RPNVPY-5601	Drip Pattern

TABLE 2: Single Pattern Recognition

Item 3, continued

WebCode-Test	Pattern Type	WebCode-Test	Pattern Type
RPPTXA-5605	Drip Pattern	VZGFJM-5601	Drip Pattern
RUJMWV-5601	Drip Pattern	W4UH4X-5605	Drip Pattern
RWBNYD-5601	Drip Pattern	WCKCQU-5605	Drip Pattern
RYEGWH-5601	Drip Pattern	WFPNYG-5605	Drip Pattern
RZBYUD-5601	Drip Pattern	WMMJT9-5601	Drip Pattern
T2ZFRR-5601	Drip Pattern	WNGA3U-5601	Drip Pattern
TAT3BB-5605	Drip Pattern	WPBVUY-5605	Drip Pattern
TELVRL-5605	Drip Pattern	WZATFE-5605	Drip Pattern
THHNGA-5605	Drip Pattern	X2ZBW7-5605	Drip Pattern
TM2GWH-5605	Drip Pattern	X7U7XD-5605	Drip Pattern
TYVWLJ-5605	Drip Pattern	X8B3NR-5601	Drip Stain
U2DCQ6-5601	Drip Pattern	X8QNV9-5601	Drip Pattern
U8J6L2-5601	Drip Pattern	YADMQH-5601	Drip Pattern
UK8ATX-5605	Drip Pattern	YMF6CQ-5605	Drip Pattern
UK9828-5605	Drip Pattern	YMVGX2-5605	Drip Pattern
UQCZ8W-5605	Drip Pattern	YVEGWM-5605	Drip Stain
UZ2UER-5601	Drip Pattern	ZA4BHC-5601	Drip Pattern
V3JFFD-5601	Drip Pattern	ZB3BMH-5605	Drip Pattern
V6CAE3-5605	Drip Pattern	ZHKLXY-5605	Drip Pattern

TABLE 2: Single Pattern Recognition

Item 3, continued

WebCode-Test	Pattern Type	WebCode-Test	Pattern Type
ZJR4U9-5601	Drip Pattern		
ZLJXUX-5605	Drip Pattern		
ZRPQQE-5601	Drip Pattern		
ZY4QVQ-5601	Drip Pattern		

Pattern Types reported for Item 3 (Total Participants Responding = 194)

Pattern Type	Percent Reported
Drip Pattern	186 (95.9%)
Drip Stain	5 (2.6%)
Splash Pattern	2 (1.0%)
Impact Pattern	1 (0.5%)

TABLE 2: Single Pattern Recognition

Item 4

WebCode-Test	Pattern Type	WebCode-Test	Pattern Type
22R92H-5605	Transfer Stain	487ZWZ-5605	Swipe
22T9WB-5601	Swipe	48R8PC-5605	Swipe
29QVQW-5605	Transfer Stain	4AF228-5605	Transfer Stain
2DY9KN-5605	Swipe	4BPTC9-5605	Swipe
2GYJFN-5601	Swipe	4GF3L8-5605	Swipe
2QTD22-5601	Transfer Stain	4KT793-5601	Swipe
2V3VX9-5605	Swipe	6HMZ9M-5605	Swipe
32KLW9-5601	Transfer Stain	6MW739-5605	Swipe
36LPLB-5601	Swipe	6NCHNK-5601	Swipe
36LPQG-5605	Transfer Stain	6NCHQ6-5605	Swipe
38A2N2-5605	Transfer Stain	6R8D6X-5605	Swipe
3EVUY2-5605	Swipe	6RBTKK-5601	Swipe
3KKCDC-5605	Swipe	6ZNRCA-5605	Swipe
3M4L7A-5605	Swipe	77NQZ6-5605	Swipe
3NJPZ3-5605	Transfer Stain	79CZCQ-5605	Transfer Stain
3NZ446-5605	Swipe	79RB3J-5601	Swipe
3WTEFL-5601	Swipe	7AB7TK-5601	Swipe
427EDD-5605	Swipe	7AM3XP-5605	Swipe
47YFC7-5605	Swipe	7L2Z6E-5601	Swipe

TABLE 2: Single Pattern Recognition

Item 4, continued

WebCode-Test	Pattern Type	WebCode-Test	Pattern Type
7WYXQT-5605	Swipe	AJ6K7E-5601	Swipe
7X9UAC-5605	Swipe	AL8L6Q-5605	Swipe
7XD84Z-5601	Swipe	AM2AML-5605	Swipe
82NUUB-5601	Swipe	AVVCRJ-5605	Wipe
84D7RV-5601	Transfer Stain	AVWAZT-5601	Transfer Stain
8MU8NH-5605	Swipe	AYWKVT-5601	Transfer Stain
8PE9GJ-5601	Swipe	BFD476-5601	Transfer Stain
8UBLT9-5605	Transfer Stain	BGBCFB-5601	Swipe
8XNNBX-5601	Swipe	BPNCPR-5601	Swipe
93GYXH-5605	Transfer Stain	BUXLYA-5605	Swipe
993Z78-5601	Transfer Stain	BYTAG2-5605	Swipe
9DFQNV-5605	Swipe	C2UPD7-5605	Transfer Stain
9DJBF6-5601	Swipe	C2Y38U-5601	Swipe
9EV8MV-5605	Swipe	C37FT3-5605	Swipe
9M4LPW-5601	Transfer Stain	C4Y9NK-5601	Transfer Stain
9T7WDG-5605	Transfer Stain	CCCF7A-5605	Transfer Stain
9VHMQR-5605	Swipe	CCV2YZ-5605	Transfer Stain
A24XG2-5605	Swipe	CFW8D7-5605	Swipe
AAW7Z8-5601	Transfer Stain	CTL769-5601	Swipe

TABLE 2: Single Pattern Recognition

Item 4, continued

WebCode-Test	Pattern Type	WebCode-Test	Pattern Type
CXFXGC-5605	Transfer Stain	G2FRFN-5605	Swipe
CZY6RR-5605	Swipe	G477LD-5605	Swipe
D72FFC-5601	Swipe	GBPAV2-5601	Swipe
D9P6NV-5601	Swipe	GDRARR-5605	Swipe
DBGWZ3-5605	Swipe	GMZKJQ-5601	Swipe
DCE6B8-5605	Transfer Stain	GP4DHV-5605	Swipe
DFQ734-5605	Transfer Stain	GT4NDV-5605	Transfer Stain
DK36KP-5601	Swipe	GY9MMZ-5601	Transfer Stain
DV4PMH-5601	Transfer Stain	HN7K23-5605	Transfer Stain
EF7VPG-5605	Swipe	HTHLTZ-5605	Swipe
EF7XG8-5605	Swipe	HW3JA4-5605	Swipe
ENKLDU-5605	Swipe	J2AACA-5605	Swipe
EQPCHN-5605	Swipe	JEWGAB-5601	Swipe
FC3MXC-5605	Swipe	JQALEK-5601	Swipe
FGUUGK-5605	Swipe	K8VHGZ-5601	Swipe
FUJQFX-5601	Swipe	K9RXNQ-5605	Swipe
FW7AGV-5605	Swipe	KDV4ZM-5605	Swipe
FW83GN-5605	Transfer Stain	KFA9XK-5601	Swipe
FZ7KDV-5605	Swipe	KHRPTB-5601	Swipe

TABLE 2: Single Pattern Recognition

Item 4, continued

WebCode-Test	Pattern Type	WebCode-Test	Pattern Type
LBPY7Y-5601	Transfer Stain	P69NCU-5605	Transfer Stain
LLPK4X-5605	Swipe	PAP26U-5605	Swipe
LNBFTB-5605	Swipe	PFQBCM-5601	Swipe
LYUUTT-5605	Swipe	PN8PHY-5601	Transfer Stain
M4LDC3-5605	Swipe	PPE8DN-5605	Transfer Stain
M9X3DY-5601	Transfer Stain	PV2YKG-5601	Swipe
MC2XYM-5605	Transfer Stain	PZYDAR-5601	Transfer Stain
MH7THM-5605	Swipe	Q993RW-5601	Transfer Stain
MQYBRP-5605	Swipe	Q9LN8Z-5605	Swipe
MTMJGR-5605	Swipe	QBEPZU-5605	Swipe
MVT338-5601	Swipe	QTU2QZ-5605	Swipe
N6EM3X-5601	Transfer Stain	QVKZ6X-5601	Swipe
NDPNNX-5605	Swipe	QVKZ8J-5605	Swipe
NGRQ89-5605	Swipe	R4A7HW-5605	Transfer Stain
NJTUWA-5605	Transfer Stain	RFLG6L-5605	Swipe
NLFJCF-5605	Swipe	RGF7AF-5601	Swipe
NMT336-5601	Swipe	RLNRQK-5601	Swipe
NTGN97-5601	Swipe	RPNVPY-5601	Swipe
P2WMKW-5605	Transfer Stain	RPPTXA-5605	Swipe

TABLE 2: Single Pattern Recognition

Item 4, continued

WebCode-Test	Pattern Type	WebCode-Test	Pattern Type
RUJMWV-5601	Swipe	W4UH4X-5605	Swipe
RWBNYD-5601	Swipe	WCKCQU-5605	Transfer Stain
RYEGWH-5601	Swipe	WFPNYG-5605	Transfer Stain
RZBYUD-5601	Transfer Stain	WMMJT9-5601	Swipe
T2ZFRR-5601	Swipe	WNGA3U-5601	Transfer Stain
TAT3BB-5605	Swipe	WPBVUY-5605	Swipe
TELVRL-5605	Swipe	WZATFE-5605	Swipe
THHNGA-5605	Transfer Stain	X2ZBW7-5605	Transfer Stain
TM2GWH-5605	Swipe	X7U7XD-5605	Swipe
TYVWLJ-5605	Swipe	X8B3NR-5601	Swipe
U2DCQ6-5601	Swipe	X8QNV9-5601	Swipe
U8J6L2-5601	Swipe	YADMQH-5601	Transfer Stain
UK8ATX-5605	Swipe	YMF6CQ-5605	Swipe
UK9828-5605	Transfer Stain	YMVGX2-5605	Transfer Stain
UQCZ8W-5605	Swipe	YVEGWM-5605	Transfer Stain
UZ2UER-5601	Swipe	ZA4BHC-5601	Swipe
V3JFFD-5601	Swipe	ZB3BMH-5605	Swipe
V6CAE3-5605	Swipe	ZHKLXY-5605	Swipe
VZGFJM-5601	Swipe	ZJR4U9-5601	Swipe

TABLE 2: Single Pattern Recognition

Item 4, continued

WebCode-Test	Pattern Type	WebCode-Test	Pattern Type
ZLJXUX-5605	Swipe		
ZRPQQE-5601	Swipe		
ZY4QVQ-5601	Swipe		

Pattern Types reported for Item 4 (Total Participants Responding = 193)

Pattern Type	Percent Reported
Swipe	139 (72.0%)
Transfer Stain	53 (27.5%)
Wipe	1 (0.5%)

Pattern Description, Part 2

TABLE 3: Recognition and Description

Item 5

WebCode-Test	Detailed Pattern Description
22R92H-5605	An impact bloodstain pattern is observed across the top left corner of the image. The impact bloodstain pattern resulted from an object striking liquid blood. A void area is observed at the lower left side of the impact bloodstain pattern. The void area displays an absence of blood in the otherwise continuous impact bloodstain pattern. A drip trail bloodstain pattern is observed across the surface from the lower left corner to the upper right corner of the image. The drip trail bloodstain pattern resulted from the movement of a source of drip stains between two points. A wipe bloodstain is observed across one stain in the drip trail. The wipe bloodstain is an altered stain resulting from an object moving through the preexisting drip bloodstain. The directionality of the wipe pattern is from left to right across the image.
22T9WB-5601	Item 5 shows an impact pattern in the upper left area of the target. A drip trail is observed across the target which includes altered staining with a wipe with associated perimeter staining.
29QVQW-5605	In the top left corner, there is an irregularly-shaped blood pool-type stain (~8x8cm) with possible bubble rings, greater than 20 spines radiating out from the majority of the stain, and greater than 20 elliptical spatter stains (~1-4mm) radiating from the lower right of the stain. Collectively, these stains/features form an impact pattern. There is also a void in staining to the lower right of this pattern. There are also at least eight near-circular drip stains (~20-25mm) linearly distributed diagonally between the lower left to and the upper right. Collectively, these stains form a drip trail. One drip stain in the upper right has been altered by way of wiping to the right leaving a perimeter stain. It must be noted that I cannot determine a directionality of movement of the drip trail.
2DY9KN-5605	1. On the top left, there is a complex pattern. 1a. Parent stain is broad (width close to 8cm) with a partially thorny edge. The blood inside is distributed heterogeneously. It should be a POOL ATERED. 1b. Satellites stains are ovoid, some very stretched, millimetric width and are not distributed all around the parent stain. It should be an IMPACT PATTERN. Together they form an IMPACTED VOLUME resulting from an impact in liquid blood present on the surface studied. 2. From bottom left ti top right, there are 9 circular stains, centimetric width (= Drip stains). 2a. Those drip stains show a linear distribution. It shroud be a DRIP TRAIL that we can't define the direction. 2b. One of the drip stains presents only its edge (= Perimeter stain) with blood strip attached showing an internal striation. It should be a WIPE.
2GYJFN-5601	Numerous stains were observed consisting of a projected stain, numerous satellite stains, at least seven drip stains, one of the drip stains exhibits perimeter staining consistent with a wipe.
2QTD22-5601	upper left portion has a large irregular shaped stain approx. 80 mm x 60 mm that has lighter density blood in the center and more density of blood surrounding upper right and left sides. Long linear spines radiating outward from central stain throughout upper part and lower right of stain. Small elliptical stains approx 1 to 5 mm radiating outward from upper right/left and lower right of central stain. Lack of staining lower left of central stain. Large elliptical stains approx. 5 mm to 30 mm to lower right of stain. A few circular air pockets in central stain (bubble rings) consistent with either an impact pattern, projected pattern, could also be splash pattern. Series of circular stains approximately 20-30 mm diameter with defined margins (drip stains) along the lower left to upper right side of the tile consistent with a drip trail. One of the drip stains in the upper right area has blood on the outside edge of the circular stain (perimeter stain) and less on the inside - a smear of blood is to the right of the stain indicates motion causing the stain to be altered. Consistent with Wipe.
2V3VX9-5605	There is an impact bloodstain pattern that is irregular shaped and surrounded by a radiating distribution of satellite spatter bloodstains in the upper left corner. There are at least 8 circular drip bloodstains to the right of the impact bloodstains running diagonally near the left side of

TABLE 3: Recognition and Description

Item 5, continued

WebCode-Test	Detailed Pattern Description
	center to the upper right corner of the page. One of the drip bloodstains in the drip trail has been wiped through with a perimeter remaining and directionality to the right.
32KLW9-5601	In the top left corner there is an impact pattern. Diagonally between top right corner and bottom left corner there is a drip trail, where no direction can be seen. In the top right corner one of the drip stains in the drip trail pattern has been altered (altered stain). There is a wipe through it, with a direction from left to right.
36LPLB-5601	There is an impact pattern located in the upper left of the target, consisting of a blood source with spines and spatter stains radiating from the blood source. There is a drip trail consisting of drip stains oriented in a linear fashion between two points. There is a wipe resulting from movement through one (1) of the drip stains. The drip stain was altered, resulting in a perimeter stain.
36LPQG-5605	Projected pattern of about 2 ml blood with void in the lower left corner (possibly a corner of a sheet of paper) followed by a drip trail. The largest rounded spot on the coordinates (180;135) is a drip pattern (two drops) that caused a number of tiny, rounded satellite stains.
38A2N2-5605	Red-brown stains consistent with drip stains; a wipe pattern through a drip stain; and a impact pattern were observed on the vinyl tile.
3EVUY2-5605	One large stain is present in the upper left corner of the target with volume and surrounded by elongated satellite stains in a radiating distribution, which is consistent with a splash pattern. Below the splash pattern and continuing up to the right corner of the target is eight drip stains with scalloped edges that create a drip trail. One of the drip stains (upper right corner) was altered and has a wipe stain traveling to the right and a perimeter stain of the original drip stain.
3KKCDC-5605	Splash Pattern: The bloodstain pattern was created as a result of a volume of liquid blood falling onto the surface. The pattern is located at the top left corner continuing to the lower left center of the image. There is volume accumulation evidence in the overall pattern with irregular spines radiating from the parent stain. The large elliptical spatter stains radiate from the center of the stain. Drip Trail: The bloodstain pattern resulted from the movement of a bloodstains creating drip stains between two points. The pattern can be seen from the bottom left to the top right of the image traveling diagonally. The distribution of the spatter stains is in-line with consistence to the size and shape of the stains. The drip stains leave form one point of the images to another point. Wipe: The altered stain was created as a result of a pre-existing bloodstain being altered by an object moving through the original stain. The pattern is located at the top right corner of the image as an original drip stain as part of the drip trail. The drip stain is the third from the top. The feathered boundaries with diminished volume and striations in the pattern suggest a left to right movement. There was an accumulation of the blood at the lower edge and right edge of the pattern. There was a visible outer ring (skeletonization) of the original stain still present.
3M4L7A-5605	A very low impact pattern on the upper left sid of the tile. Drip trail with no distinct direction between the lower left corner to the upper right corner. wipe pattern on one of the drip stains directioned left to right.
3NJPZ3-5605	An impact pattern, measuring approximately 2 1/2" in diameter, was observed in the upper left corner of the target. Narrow spines were observed radiating outward from the center with additional elliptical stains measuring approximately 1mm to 4.5mm in diameter observed within this pattern. Some of these elliptical stains exhibited directionality. A disruption was observed in the center of the impact pattern with a void along the lower left side of the pattern. Several drip stains measuring approximately 13mm-21mm in diameter were observed between the lower left corner and upper right corner of the target resulting in a drip trail. A wipe was observed through one of the drip stains in the upper right corner, resulting in a perimeter stain. The wipe exhibited left to right directionality with welling at the end of the wipe. Below this wipe satellite stains were observed surrounding one of the drip stains. Each of the drip stains had scalloping.

TABLE 3: Recognition and Description

Item 5, continued

WebCode-Test	Detailed Pattern Description
3NZ446-5605	Several patterns were observed- an impact pattern (upper left corner and extending across target), a void (left side below impact pattern), multiple drip stains forming a drip trail (diagonally across right side of target) and a wipe with a perimeter stain (drip stain on upper right corner).
3WTEFL-5601	Several drip stains - bloodstains resulting from a falling drop that formed due to gravity. One drip stain has been wiped while still wet leaving edge characteristics. A splash pattern - a bloodstain pattern created from a large volume of liquid blood falling onto a surface. Associated with the splash pattern are satellite stains - smaller bloodstains that originated during the formation of the parent stain as a result of blood impacting a surface. Within the splash pattern and satellite stains there are bubble rings present - an outline within a bloodstain resulting from air in the blood.
427EDD-5605	In the top left side of the image, the pattern is consistent with projected blood as evidenced by a circular pool with a linear/spiny stain edge. There also appears to be a void pattern at the lower left of this stain area. On the right side and bottom of the image, there are drip stains forming a diagonal drip trail. One drip stain at the top of the image has a wipe through the stain from left to right.
47YFC7-5605	A drip trail was observed across the image from the bottom left corner to the upper right corner. A single drip stain in the upper right corner (this stain appears to be part of the overall drip trail) was altered, exhibiting perimeter staining with an associated wipe stain in a left to right direction. An impact pattern was observed in the upper left corner, with multiple radiating spatter stains. A void was observed in the lower left portion of the impact pattern.
487ZWZ-5605	The predominate pattern (upper left quadrant) appears to be an impact pattern with a void space in the 6 o'clock to 9 o'clock area and associated spatter pattern. However, this pattern could also be a projected pattern with associated splash pattern with a square (approximate right angle object) creating the void space that was subsequently removed. A drip trail is also present in the photo from the bottom left to the top right corner of the photo. No direction of the drip pattern can be determined. One of the stains within the drip trail is a perimeter stain with a wipe mark (left to right) thru it.
48R8PC-5605	single drip stains forming a drip trail. one of the drip stains shows a wipe and thus is only visible as a perimeter stain. there is also a projected pattern which seems to be an expiration pattern since it shows air bubbles
4AF228-5605	A large bloodstain is observed in the upper left-hand side of the picture. This bloodstain shows irregular shape with multiple spines around the edge. The characteristics of this bloodstain are consistent with an impact in a pool of blood on the floor. A few elliptical bloodstains are visible between the large bloodstain and the bottom of the picture. These bloodstains are consistent with spatter stains originating from the splash pattern. Between the bottom left side and the upper right side, seven of the eight bloodstains show a round shape. Those bloodstains are consistent with a drip trail. One of the bloodstains in the upper part exhibit only edge characteristic and a wipe pattern of about 35 mm.
4BPTC9-5605	A trail of nine near circular drip bloodstains in a linear formation goes from the upper right corner of the image to the lower left corner, ranging in size from 14mm to 22mm. This drip trail encompasses the entirety of the image and may be just a segment of a larger trail. One drip stain in the upper right corner has perimeter staining and has been altered with a wipe (elongated stain with smooth margins and striations to right from altered drip stain). An apparent impact bloodstain pattern (irregular shaped with spining on the margins and mostly surrounded with a pattern of radiating elliptical spatter) is near the upper left corner of the image. The impact pattern parent stain measures 88mm wide x 84mm high, and may have a void (source of impact) in the satellite spatter to the lower left of the impact area. The radiating spatter from the impact pattern encompasses the entire image and may extend beyond the frame.

TABLE 3: Recognition and Description

Item 5, continued

WebCode-Test	Detailed Pattern Description
4GF3L8-5605	Item 5 is an image of a complex bloodstain pattern contisting of several individual bloodstain patterns. An impact bloodstain pattern is towards the upper left of the image. The parent stain is ~8.5 cm by 10 cm in size with spines radiating from its edge. This stain has a lighter concentration of bloodstaining towards it center and it appears altered. Spatter bloodstains in a radiating distribution are present surrounding the parent stain and are concentrated along the upper and bottom left edges. These spatter bloodstains radiate away from the parent stain. There is an absence of spatter bloodstains and spines from the bottom left edge of the parent stain, likely due to the position of the object as it impacted the parent stain. Nine drip bloodstains forming a drip trail are in a linear orientation spanning from the top right corner towards the bottom left corner of the image. The stains are near circular and range in size from ~1.4 cm to ~2.4 cm in diameter. The largest drip stain is surrounded by ~20 satellite spatter bloodstains. There are two pairs of overlapping drip bloodstains. One of these overlapping drip bloodstains has been wiped through in a left to right direction with perimeter staining remaining of the outline of the altered drip bloodstain.
4KT793-5601	A drip trail was observed near the bottom left to the top right corner of the target. No directionality was determined for the drip trail. A wipe was observed through a preexisting drip stain resulting in a perimeter stain near the top right of the target. An impact pattern was observed near the top left of the target with associated spatter stains.
6HMZ9M-5605	Splash pattern plus individual drips one of which (towards upper right of picture as viewed) has been disturbed/smeared after deposition, edge characteristic of stain is still visible indicating that stain was deposited and began to dry prior to disruption resulting in a perimeter stain. Drips are in a continuous pattern as might be expected if part of a drip trail.
6MW739-5605	There are at least three patterns visible in this picture. A) Splash Pattern: on the top right, there is a non-circular and non-elliptical stain, larger than three centimeters, with an irregular margin, and a visible accumulation of blood on its bottom right side. Its periphery exhibits multiple long spines and some satellite stains. This pattern is a splash pattern, which is a bloodstain pattern created from a large volume of liquid blood falling onto a surface. B) Drip Trail: we observe 9 circular stains, each with width larger than 10mm, arranged along a curvilinear path from the bottom left to the top right of the figure. Some stains overlap another stain. This pattern is a drip trail, a bloodstain pattern resulting from the movement of a source of drip stains between two points. C) Wipe: on the top right of the picture, one of the drip stains of the drip trail looks different from the 8 other drip stains. While a dark and circular ring is visible, its interior is lighter, and there is blood visible outside on the right of the dark circular ring. The overall periphery of the stain is thus irregular. The dark circular ring shows the boundary of a drip stain that has been altered by an event occurring after the creation of the drip stain, and this is the reason why that stain appears different from the other stains of the drip trail. Likely, an object has displaced some of the blood from within the periphery of the original circular drip stain to the right of that periphery. This is a wipe, an altered stain resulting from an object moving through a preexisting wet bloodstain.
6NCHNK-5601	There are drip stains forming a drip trail. Some of the drip stains have associated satellite stains. One of the drip stains has been altered in that it has partially dried before being smeared from left to right, resulting in a wipe stain with a perimeter stain. A pool of blood has been subjected to an impact causing an impact pattern which includes radiating spines and directional spots of blood. Bubble rings are present in some of this blood. There is a void in the lower left hand corner of the pool of blood/impact pattern.
6NCHQ6-5605	In the top left corner an impact pattern can be observed. In the lower left area of that impact pattern a void (rectangular shape) can be observed. In the lower right area of that impact pattern some parent and satellite stains can be observed. Within the impact pattern some bubble rings can be observed. Between top right corner and lower left area a drip trail can be oberved. One

TABLE 3: Recognition and Description

Item 5, continued

WebCode-Test	Detailed Pattern Description
	of those stains has been altered through wipe whereas a perimeter stain can be observed.
6R8D6X-5605	Two bloodstain patterns are present in the photograph. Pattern 1 is a consistent with an impact pattern created when an object strikes a pre-existing pool of blood. Satellite stains are present around most of the perimeter of the stain. There is a void of satellite stains below the pattern from 6:00 - 9:00. This would indicate that there was either an object in that location when the impact occurred or that the shape of the object that created the impact pattern was such that it would prevent the deposition of the satellite stains in that area. There is evidence of possible flow from the right side of the pattern in the downward direction. The flow may have been created by the flow of blood along one side of the object that created the void. Pattern 2 is a drip trail comprised of 8 drips, one of which is an altered stain consistent with a wipe pattern moving from left to right.
6RBTKK-5601	Impact pattern toward top left of image with void to lower left side of staining. Drip trail between lower right of image and top right corner. One of the drips toward the top right corner has been wiped left to right before the drip was completely dried.
6ZNRCA-5605	A splash consisted with an expiration pattern is present in the top left corner of the image. A void is also present in the bottom left portion of the splash/expiration pattern. Bubble rings, mucous strands, and large spines are present coming from the splash/expiration pattern. It's possible (1) other medium force impact pattern/expiration pattern event is present in the same area as the splash/expiration pattern. These medium force spatter stains contain also bubble rings, but don't appear to be from the same event as above. At least (9) drip stains are present which are part of a drip trail. At least (1) drip stain has been wiped through showing an edge characteristic and movement.
77NQZ6-5605	Within Item 5 there were several stains and patterns depicted. Along the left side of the image was an impact pattern. The main area of this impacted area measured 7cm by 8.5cm and exhibited spines and elliptical-shaped spatter stains. These associated stains radiated outward along the majority of the primary stain with the exception of the lower left portion. There was a significant absence of low angle/spatter bloodstains in the lower left region of this overall pattern and may be a void. There was a series of 9 near circular drip bloodstains extending from the lower left portion of the image to the upper right. The diameters ranged from 1.5cm to 2.5cm and in two areas there appeared to be overlapping drip stains. These drip stains were aligned in a linear fashion, which created a drip trail. Two of these drip stains near the upper right portion of the drip trail were overlapping and formed a figure 8 formation. This lower drip stain exhibited alteration in the form of a wipe running through the original stain from the left to the right. There was perimeter staining present in the outer margin of the original stain and a wipe of bloodstaining which extended 3.3cm away from the original stain.
79CZCQ-5605	On the tile a bloodstain is visible in the upper left corner. The bloodstain has been altered by a low-impact force that created satellite stains and at the same time created the void visible in the left hand side and lower left corner. A drip trail is observed, the direction of movement can not be determined. One of the bloodstains has been altered when wet through movement to the right, a wipe.
79RB3J-5601	On vinyl tile found Pool blood, Drip pattern, and wipe.
7AB7TK-5601	Based on the choices provided by CTS, the following patterns were visible on the target surface: An impact pattern was visible at the top left corner of the target surface, creating radiating spatter stains. A drip trail extended across the target surface from the bottom left to top right. One drip stain was altered by a wipe, creating a perimeter stain.
7AM3XP-5605	Item 5 is an image of a smooth vinyl tile in the horizontal plane with multiple bloodstains. The pattern was found in the home of a victim deceased under suspicious circumstances. There is an

TABLE 3: Recognition and Description

Item 5, continued

WebCode-Test	Detailed Pattern Description
	impact pattern towards the upper left side of the image. Several small bubble rings are visible within the impact pattern stain. There is also a void in the lower left quadrant of the impact pattern. There is a drip trail that extends between the upper right corner of the image and the lower left corner. One of the drip stains in this drip trail was altered to include a wipe. This wipe is towards the upper right corner of the image, and extends in a left to right direction. There is a perimeter stain remaining as a result of the physical change that occurred to the wiped drip stain.
7L2Z6E-5601	In the top left corner of the target there is an impact pattern. The approximate middle of the pattern is 6cm in from the left and 8 cm down from the top. There are spatter stains showing directionality originating back towards the impact pattern. These spatter stains radiated out from the impact pattern in all directions except in an area below and to the left of the impact pattern which was void of these bloodstains. There are circular and irregular shaped satellite stains throughout the target of various sizes from approximately 2mm diameter and below. Some of the satellite stains are visible under the lighter areas of the impact pattern. There was a drip trail extending from the bottom left corner to the top right corner of the target. The drip stains which were all circular with diameters approximately 1.5cm to 2.25cm in diameter. One of the drip stains, located approximately 7.5cm down from the top and approximately 4.5cm in from the right side of the target, was wiped through in a left to right direction. The edge characteristics of the altered drip stain are still present.
7WYXQT-5605	A volume of blood made contact with the upper left corner of the target with a degree of force, causing the formation of radiating spatter and spines. Areas of this pattern appear dilute and the presence of bubble rings was observed, indicating an expiration pattern. A linear trail of numerous approximately 90 degree stains, some overlapping, was observed from the lower left to the upper right corners of the target. The direction of this drip trail was not apparent. One of the stains in the drip trail has been altered, creating a perimeter stain with a wipe.
7X9UAC-5605	There is a blood pool in the upper left corner of the image with numerous spatter stains emerging from the blood pool in a radial distribution around the blood pool from 9 o'clock to 6 o'clock. The majority of the spatter stains are long and very narrow (spindle shaped). There are larger oval spatter stains with a thick appearance of variable sizes to the lower right side of the pattern between 4 and 6 o'clock. The direction of travel for these stains is away from the blood pool. The core of the pool is shaped like a question mark with thick deposits of blood forming the question mark and a thin deposit of blood in the semi-circle of the question mark. Possible mechanisms for a pattern of this type are an impact into a blood pool by an object with a broad flat surface (impact pattern), blood projected onto the horizontal surface from above (projected pattern), and blood falling from a height greater than 1 meter onto the horizontal surface (splash pattern). Also present in this image is a drip trail with 8+ round to near round bloodstains. The stains run the length of the image from the bottom left corner to the upper right corner. The diameters of the stains range from ~12mm to 22mm. The direction of movement for the trail is undetermined. There are 2 overlapping stains near the bottom left corner of the image. In addition, there are 2 overlapping stains near the top right corner of the image. One stain in this pair is altered from a wipe through the stain from left to right.
7XD84Z-5601	An impact pattern with radiating spatter stains and spines around a blood source in the upper left corner of the target was noted as present. A lack of staining on the left side of the target within the impact pattern indicates an apparent void in this area. Drip stains were noted as present extending between the lower left corner and the upper right corner of the target creating an apparent drip trail. A wipe with directionality from left to right was noted as present through an apparent drip stain in the upper right corner of the target creating a perimeter stain.
82NUUB-5601	A drip trail is present between the bottom left corner and the top right corner of the image. One of the drip stains has been wiped through from right to left leaving a perimeter stain. There is a pool of blood with an impact pattern in the top left corner of the image. Bubbles are visible in the pool. A void is present on the left below the impact pattern. Satellite stains are radiating out from

TABLE 3: Recognition and Description

Item 5, continued

WebCode-Test	Detailed Pattern Description
	the edges of the impact pattern exhibiting a direction of movement away from it.
84D7RV-5601	This photograph contains multiple bloodstain patterns. A large, irregular shaped stain measuring 6x9cm is present in the upper left corner. This stain appears to contain bubbles and is surrounded by long, narrow satellite stains. This stain appears to be a projected pattern. Nine circular bloodstains (one only partially visible) measuring approximately 1.5 to 2.5 cm in diameter are present from the lower left to the upper right. These stains appear to form a drip trail. One of the circular stains in the drip trail has been altered leaving a perimeter stain with staining moving to the right of the perimeter stain. This stain appears to be a wipe.
8MU8NH-5605	The target has several patterns. A drip trail with 9 drips stains is present between the lower left and upper right side of the target. A drip stain in the upper right corner has been altered by a wipe in a left to right direction. The upper left hand corner appears to be an impact pattern into a pool of blood with associated spatter surrounding most of the pool. The lower left side of the pool appears to have a possible void pattern. The sequence of the patterns was not determined.
8PE9GJ-5601	1. Appears to be force into existing pool of blood causing impact stains to project outward. There appears to be a void area, bottom left of the stain whereas no impact stains are visible. 2. There is clearly 8 drip stains visible with 1 more partially visible in top right hand corner. Drip stains appear to be close to a 90% angle. The drip stains were develop AFTER the impact stains mentioned in # 1. 3. One of the above mentioned drop stains in # 2 has been altered and is now a Perimeter stain with a wipe motion left to right. Stains observed - Pool, Impact, Void, Drip, Perimeter, and Wipe
8UBLT9-5605	A pool of blood with an impact pattern is observed in the upper left corner of the image. A void is observed at the mid-left edge to the lower left corner of the image. A drip trail consisting of multiple drip stains is observed at the upper right corner of the image and extending to the lower left corner of the image. No directionality can be determined for the drip trail. A wipe pattern is observed in a drip stain in the upper right corner of the image.
8XNNBX-5601	A drip trail can be observed on the right side of the image. This trail is made up of several drip stains. A wipe can be seen on the upper right side of the image. The wipe is a drip stain that was altered. Movement from the left to the right can be observed. Perimeter staining is also observed as a result of the wipe. An impact pattern can be seen on the upper left side of the image. There are spatter stains and spines radiating out from the parent stain. There is a void on the lower left area of the parent stain.
93GYXH-5605	1) The floor was observed with an irregular margined, non-spatter pattern ranging less than 8.5cm in size, appeared to be of a splash pattern. There is a large volume accumulation evident in the overall pattern exhibiting spines and spatter radiating from it. Also present are large elliptical stain around the pattern. 2) The floor was observed with circular stains ranging less than 2.2cm in size overlapping each other, appeared to be of a drip pattern. 3) The floor was observed with a circular stain that appeared to be of wipe pattern. It was noted to be in a range of 2cm with feathering, striation features and a rightwards directionality originating from the skeletonized parent stain. 4) The floor was observed with an inline distribution of circular stains of a linear pattern with consistent stain size range between 2.2cm and 1.9cm in size, appeared to be of a drip trail. 5) Within the splash pattern and the elliptical stains surrounding it, small circular vacuoles and bubble rings were observed, appeared to be of expiration pattern.
993Z78-5601	The upper left corner of the tile was an impact pattern with a parent stain in the upper left and satellite stains in the middle of the tile. There was a drip pattern from the lower left corner to the upper right corner. In one of the upper right drip stains there was a wipe from left to right. There was a void in the lower left of the tile.
9DFQNV-5605	1. Splash Pattern - A bloodstain pattern created from a large volume of liquid blood falling onto a surface. The stain was caused by damage to blood vessels and profuse bleeding. 2. Void -

TABLE 3: Recognition and Description

Item 5, continued

WebCode-Test	Detailed Pattern Description
	When the volume of blood falls on the substrate, some of the blood is on the surface of the floor, which was later removed, and as a result, there is a stain in the lower left part of the stain - a void. 3. Drip Trail - A bloodstain pattern resulting from the movement of a source of drip stains between two points. As a result of the movement of the blood-covered surface, a drip path pattern was formed from Drip Trail. 4. Wipe - As a result of the movement of the surface, one of the resulting drips resulted in the formation of an abrasive image.
9DJBF6-5601	A drip trail was observed on the bottom left quadrant and upper right quadrant of the target with one (1) drip stain observed as an altered stain, creating a wipe with a perimeter stain. On the left side of the target, an impact pattern was observed. On the left edge of the target below the impact pattern, a possible void was noted.
9EV8MV-5605	Stains, consistent with an impact pattern, were observed on the floor. Several drip stains making up a drip trail were observed in the area of the impact pattern. One of the drip stains was altered, resulting in a wipe.
9M4LPW-5601	Image of an approximate 29.6 cm x 24.4 cm area of a brown/beige in color vinyl tile in the horizontal plane, with a right angle, millimeter scale oriented in the upper left corner. The following stain pattern description is based on what is visible in the photograph. In the upper left quadrant of the image, is a red in color stain, with the main body being approximately 8.7 cm wide and 7.7 cm long with a generally circular shape. Referencing a 360-degree circle with 0 degrees being at the top of the photograph; the main body of the stain extends in a general circular configuration from approximately 270 degrees clockwise to 180 degrees, with the remaining 180-270 degrees being void. Extending from the perimeter of this stain are radiating, long, thin spines. Well-formed elliptical stains with cast-off wave directionality are radiating outward, consistent with and within the aforementioned radiating spines. The density of the stain's main body at the center is less than the outer perimeter of the stain. Air bubbles are visible within the stain. The stain pattern is consistent with a projected pattern. The following describes distribution and not directionality of the stains: Extending from the lower left quadrant, in a slight curvilinear distribution, are stains consistent with drip stains. The second stain from the bottom left of the photograph appears consistent with two drip stains, one being deposited over perimeter of the other. The other stains are circular in shape, ranging in diameter from approximately 1.4 - 2.2 cm, with scalloping at the perimeter. The pattern is consistent with a drip trail. One drip stain in the upper right quadrant is an altered stain with a wipe pattern moving through it in a left to right direction. The remaining edge characteristic at the left side of the stain is approximately 1.5 mm in width. A portion of a stain with an approximate 1/3 circle shape and scalloped edge characteristics is at the top right corner of the photograph.
9T7WDG-5605	Minimally, 3 patterns were observed. The first pattern observed ("Pattern 1") is located at the top left corner of the image. The pattern measures 150 mm by 245 mm. It has irregular edge characteristics, with long spines radiating outwards from most part of the central stain. Several spatter stains measuring less than 1 mm to 3 mm with directionality observed to be originating from the central stain were also observed. Air bubbles were observed throughout the pattern. In my opinion, Pattern 1 is an impact pattern. The second pattern ("Pattern 2") spans diagonally, top right to bottom left, across the image. About 7 circular stains with regular margin and scalloped edge characteristics measuring 14 mm to 20 mm were observed. In my opinion, Pattern 2 is a drip trail. The third pattern ("Pattern 3") is located near the top right corner of the image. A circular perimeter stain measuring 18 mm, with its central area being partially removed was observed. Immediately to the right of the perimeter stain, a red stain with regular margin and an uneven deposition of blood was observed. In my option, Pattern 3 is a wipe.
9VHMQR-5605	Noted a possible Drip Trail in the image. The Drip Trail is located in lower left corner and continues to upper right corner. Within the Drip Trail, a possible Perimeter Stain was located in the upper right corner. The Perimeter Stain appears to have a possible Wipe Pattern present with movement from left to right. In addition to these stains, a possible Impact Stain was observed in

TABLE 3: Recognition and Description

Item 5, continued

WebCode-Test	Detailed Pattern Description
	the upper left corner, A possible void pattern was also located in the same vicinity as the Impact Pattern.
A24XG2-5605	(A): Spatter with no linear orientation and radiating distribution. Conclusion: Impact Pattern. An Impact Pattern is a bloodstain pattern resulting from an object striking liquid blood. (B): Non-spatter stain with irregular margin, no spatter or spines, and preexisting stain (the preexisting stain was a drip stain). Conclusion: Wipe. A Wipe is an altered stain resulting from an object moving through a preexisting wet bloodstain. (C): Spatter stain with linear orientation, no flow on individual stains, and no progressive change in the angle of impact. Conclusion: Drip Trail. A Drip Trail is a bloodstain pattern resulting from the movement of a source of drip stains between two points.
AAW7Z8-5601	Impact pattern with a void along the left side of the impact pattern. There is a drip trail that travels along the right side of the impact pattern. In one of the droplets of the drip trail, there is a wipe, creating a perimeter stain. There are also satellites radiating out from the impact pattern.
AJ6K7E-5601	The right hand side has several drip stains creating a drip trail which shows movement between two points (between the lower left and upper right or vice versa). One drip stain has begun to dry, the centre of which has been wiped leaving behind a halo. In my opinion, this is a perimeter stain. The top left blood stain shows an area wet with blood with satellite stains radiating away at an acute angle to the parent stain. In my opinion, this has been caused by the parent stain being struck with force and can be classed as an impact pattern. A void is present in the lower left quadrant of the impact pattern, possibly caused by the item which has struck the blood stain. A few air bubbles are also present in the parent stain.
AL8L6Q-5605	Possible impact pattern in the upper left of the image. There is a drip trail that is noted on the image in the lower left corner going up and across the image toward the upper right corner. There is a wipe also present in one of the drip stains in the drip trail that demonstrates a left to right direction. This wipe occurred after some period of time which is evident from the perimeter stain that was left behind.
AM2AML-5605	I observed an altered stain near the top right consisting of a wipe moving from left to right. On the left side of the wipe is a perimeter stain from a possible preexisting drip stain. Also, several drip stains exist linearly from the bottom to the upper right, which suggests a possible drip trail. The direction of travel of this drip trail cannot be determined. In the upper left is an impact pattern with accompanying spatter stains radiating out. Within this impact pattern, multiple bubble rings are observed.
AVVCRJ-5605	There is an altered bloodstain pattern in the upper left of the frame that appears to be an impact pattern resulting from an impact of an unknown object with a pool of blood that was on the surface. There is a series of drip stains from the lower left to the upper right with no directionality. There is a wipe pattern through one of the drip stains at the upper right.
AVWAZT-5601	In the top left of the photo there is a possible projected pattern with thin, spiny satellite stains. There is an area of little to no staining below the possible projected pattern positioned on the left side spanning toward the bottom of the photo that could possibly be a void from an obstruction. There is a drip trail of circular drip stains spanning from bottom left section of the photo and arcing up to the top right of the photo. There is a wipe through one of the drip stains in the drip trail on the top right leaving a perimeter stain of that drip stain and the wipe exhibits directional movement toward the right.
AYWKVT-5601	This photograph is in the horizontal plane on vinyl tile. There are 9 drip stains creating a drip trail spanning from the bottom left of the field of view to the top right. These stains range in diameter from approximately 1.4cm to 2.2cm. One drip stain on the top right is an altered stain created from a wipe which created a perimeter stain. In the top left corner of the field of view, there is a possible projected pattern with spines and columns radiating from the parent stain and also

TABLE 3: Recognition and Description

Item 5, continued

WebCode-Test	Detailed Pattern Description
	creating some satellite stains. A void is also present as part of the possible projected pattern on the far left corner, measuring approximately 21cm x 4.5cm.
BFD476-5601	An impact pattern originated near the upper left hand corner of the target surface. To the right of the impact pattern is a drip trail. One of the blood drops in the drip trail has an altered (wipe) pattern, creating a perimeter stain to that particular blood drop.
BGBCFB-5601	There is a splash pattern located left side of the image with radiating spines. There is series of drips stains between the bottom left corner and the top right-hand corner, one of these stains has been wiped through (from left to right) after deposition.
BPNCPR-5601	Three patterns identified in item no. 5. 1- Impact Spatter: Observed in upper left hand corner in item no. 5 (image). Impact pattern results from an object striking liquid blood. 2- Drip Trail: Observed from upper right hand corner to lower left hand corner in the item no. 5 (image). Drip trail pattern results from the movement of a source of drip stains between two points. 3- Wipe: A wipe pattern of a drip stain observed near upper right hand corner in item no. 5 (image). A wipe is an altered stain resulting from an object moving through a pre-existing wet blood stain.
BRUQDL-5605	Impact stain in the upper left area of image, indicated by the radiating satellites, lighter area within the stain, and the void to one side. There is a drip trail moving diagonally through the image, the drops are fairly circular and uniform in shape so no direction of movement of the source was determined. One drop in the upper right of the image has been altered. A perimeter stain remains of the original drop with a wipe/swipe extending to the right.
BUXLYA-5605	Splash, drip trail, drip pattern, altered stain with wipe.
BYTAG2-5605	An altered pool with attached spines (i.e. irregular edge characteristics) and partly surrounded by an impact pattern consisting of spatter stains of different sizes with a radiating directionality, as a result from the impact in the pool. Bubble rings in some of these impact spatter stains and within in blood in the pool. A Void at the lower left corner of the pool. Nine partly overlapping drip stains forming a drip trail. One (1) drip stain is wiped out during a rightward movement, resulting in a perimeter stain.
C2UPD7-5605	In the upper left side, there is a pool of blood that is the area of convergence for an impact pattern. There are several drip stains in a linear pattern from the lower left side to the upper right side that form a drip trail. One of the drip stains near the upper right side had partially dried to form a perimeter stain, but the central area of the stain was altered by an object passing through it to the right (a wipe) before it completely dried.
C2Y38U-5601	There is an impact pattern on the upper left corner of the target with spatter stains and spines radiating out from the parent stain and a void in the lower left quadrant of the impact pattern. There are drip stains, with some satellite stains, creating a drip trail extending across the target from the lower left corner to the upper right corner of the target. One (1) of the drip stains is an altered stain via a wipe resulting in a perimeter stain.
C37FT3-5605	An impact pattern is present on the target. Adjacent to the impact pattern is a drip trail consisting of 9 stains, one of which has perimeter staining that has been wiped through from left to right.
C4Y9NK-5601	At bottom and continuing to the right upper quadrant there are several 90 degree appearing stains with no apparent directionality- drip trail. One of the stains appears wiped through with the outer ring of the stain remaining- altered/skeletonized. Near top and left of the target is a bloodstained area with “spines” and other bloodstains projecting off the central volume. There are possible air bubbles or maybe something on the surface that has appearance of bubbles. This appears consistent with a possible projected or impact pattern. To the left and below this area – the target is mostly free from bloodstains and appears to be a void area.

TABLE 3: Recognition and Description

Item 5, continued

WebCode-Test	Detailed Pattern Description
CCCF7A-5605	At the top left quadrant of the image is an apparent impact pattern into a pool of staining resulting in the formation of spatter stains radiating away from the pooled stain, many of which exhibit a very acute angle of impact. There is a possible void in the immediate area below and to the left of the pooled stain. Apparent air bubbles are seen within this pattern. There are a series of at least nine near circular drip stains ranging between approximately 14mm and 22mm, between the bottom left of the image and the top right of the image, comprising a possible drip trail (although a larger field of view would assist in making this conclusion). One of the drip stains, towards the top right corner of the image, appears altered and has been wiped from left to right of the original drip stain, resulting in the formation of a perimeter stain.
CCV2YZ-5605	Pattern in the upper left corner of the image is consistent with an impact pattern, although a projected pattern cannot be ruled out. This pattern contains a void on the lower left side. The pattern extending from the lower left corner to the upper right corner of the image is consistent with a drip trail. The altered portion of the drip trail is consistent with a wipe pattern based on the presence of the perimeter staining.
CFW8D7-5605	There is an impact pattern at the upper left corner of the vinyl tile. A void can be observed at the lower left part of the pattern. Some air bubbles can be observed inside the pattern. We can't tell if the source of blood is made of a air/blood mix or if these bubbles are linked to/resulting from the the characteristics of the vinyl surface texture that generates bubbles. There is a drip trail going from bottom left corner to the upper right corner. Direction of the drip trail is unknown (from left to right or from right to left ?). At the upper right corner, there is a wipe (moving from left to right). The wipe happened after the drip trail, because a perimeter stain can be observed. The wipe has altered blood from the drip stain, resulting in a perimeter stain.
CTL769-5601	Large volume 'Parent Stain' associated with smaller 'Satellite Stains' exhibiting 'Directionality'. Some of larger 'Satellite Stains' have a 'Clotted' appearance. Some apparent 'Bubble Rings' within staining (both Parent Stain & Satellite Stains) no obv dilution or stringing – may be a surface effect? 'Void' to lower left side of pattern. 'Drip Trail'. 'Wipe' to one of 'Drip Stains'. In my opinion, the projected stains appear to have been deposited after the 'Drip Trail' - may be two different sources. In my opinion, this pattern has features of an 'Impact Pattern' but unable to reliably determine whether this is as a result of an impact into wet blood or whether the blood hitting the floor i.e. 'Splash Pattern' is the impact or whether there is a combination of both.
CXFXGC-5605	Drip stains are present between the bottom left and top right of the image. Potential drip trail. Drip stains have relatively smooth edge characteristics. No directionality is present with the stains. An altered drip stain (Wipe stain) is present in the top right hand corner of the image. An object has appeared to have moved from left to right through one of the drip stains leaving a perimeter stain. In the top left of the image there is an impact pattern with bubble rings in the central pool of blood. There appears to be a void in the lower left corner of the impact pattern.
CZY6RR-5605	Apparent blood drips forming a drip trail with some disruption / wipe to one of blood drips creating a 'halo' bloodstain. larger pool of blood that has bloodstains radiating away at low level indicating that some form of impact into wet pool of blood has occurred. Overall: Drip stains forming a drip trail & a wipe / disruption to one drip stain. Impact blood pattern into wet blood
D72FFC-5601	Pool blood, Drip pattern and some wipe
D9P6NV-5601	There are several drip stains across the surface forming a drip trail. One (1) of the drip stains is altered via a wipe with a resulting perimeter stain, and there are satellite stains around another of the drip stains. On the upper left corner, there is an impact pattern with a large parent stain with numerous, radiating, elongated spines and spatter stains and a void in the lower left area.
DBGWZ3-5605	A splash pattern with satellite stains is present in the upper left. A possible void at the lower left of the splash pattern is visible. Drip stains form a drip trail from the lower left to the upper left. A

TABLE 3: Recognition and Description

Item 5, continued

WebCode-Test	Detailed Pattern Description
	wipe from left to right is formed through the third drip stain from the top making a perimeter stain.
DCE6B8-5605	Approximately 10 circular stains, 1 - 2cm in width, with two stains overlapping. The stains are in a linear arrangement diagonally in the area between the bottom left and upper right corners. One of the circular stains has lighter staining in the middle with staining to the right of the circular stain. drip stains in a drip trail , one drip stain has been altered by wiping from left to right In the top left corner is an uneven shaped stain (approx. 7.5cm wide) with spines extending from the outer edges. There is a discontinuous area within the stain in the bottom left - void. There are some bubble rings in the centre of the stain. There are approximately 15 elliptical stains within the spines of the lower part of the stain. The directionality can be determined in some of the stains, this indicates radiating away from the uneven shaped stain. classification: impact pattern with void, and satellite spatter or a possible splash pattern - (volume of blood contacting the floor) with void and satellite spatter
DFQ734-5605	This pattern consists of several red-brown stains. On the right side of the photo, there are several round red-brown stains that appear to form a drip trail. One of these drip stains appears to have been wiped, causing a perimeter stain. The larger red-brown stain in the upper left hand side of the photo appears to be an impact pattern. A void appears to be present on the lower left side of the impact pattern.
DK36KP-5601	Item 5 depicted stains consistent with three separate patterns. A large central stain with varying densities of internal staining, and long thin stains on the edge was observed on the upper left corner of the photograph. Spatter stains with acute angles of impact exhibiting directionality radiating out from the central stain were present throughout the photograph. Bubble rings were also observed in some of the stains. Observable characteristics of the blood in this pattern indicated the pattern was an impact pattern; however, it is also possible this pattern could be a projected pattern. A series of drip stains were observed diagonally across the target stretching between the lower left corner and the upper right corner. Observable characteristics of the blood in this pattern indicated the pattern was a drip trail. Additionally, blood had been removed from the center of one of the stains near the top right corner of the target, creating an altered bloodstain specifically, a perimeter stain. This action created a wide linear single stain that exhibited signs of motion from the left to the right that indicates a wipe pattern.
DV4PMH-5601	Splash pattern with bubble rings and a void. Drip stains, one with a wipe that created a perimeter stain.
EF7VPG-5605	Nine drip stains in a roughly linear formation from the top right to bottom left of the photograph, consistent with a drip trail. One of the stains near the top right is skeletonized and altered with a wipe, traveling from left to right. Large volume stain in upper left corner of photograph. Stain is sharply scalloped on defined edges with sharp spines and satellite spatter radiating around over half of the stain. Area of no staining in the bottom left, where radiating satellite stains should have been present. Consistent with a splash pattern containing a void area.
EF7XG8-5605	Various types of blood patterns are found on the vinyl tile. Presents a splash pattern along with bubble rings and satellite stain. There is also a drip stain and drip trail. Finally a wipe pattern is also observed in the upper right.
ENKLDU-5605	The bloodstain patterns in the image consist of a drip trail consisting of 8-9 drip stains, between the lower left and upper right areas of the image. One of the drip stains (third from top) is an altered stain (perimeter stain) with an associated wipe from left to right. Also present in the image is an impact pattern consisting of a central large volume bloodstain with associated radiating edge characteristics (spines) and spatter stains, and a void.
EQPCHN-5605	One pattern is consistent with an impact pattern. This is characterized by the central stain with blood displaced from the center. Spines are radiating from the central stain and elliptical stains

TABLE 3: Recognition and Description

Item 5, continued

WebCode-Test	Detailed Pattern Description
	with directionality away from the central stains were noted. A drip trail is also noted, characterized by a linear distribution of several circular drip stains measuring approximately 15mm to 23mm in diameter. Scalloping is noted along the edge of the drip stains. One of the drip stains is altered, forming a wipe pattern. This stain is characterized by the perimeter of the original drip stain measuring approximately 18mm in diameter and the blood from the center of the stain being displaced from the center to one side.
FC3MXC-5605	1) Impact pattern (top left hand corner). Irregular shaped area of pooled blood which appears altered/Light in the middle of stain with heavier pooled blood staining at the bootm of stain. Possible displacement of blood when inpact occured. pooled blood stain has edge characteristics. Edge characeristics consist of spines/directional stains radiating away from the main blood stain. Small circular spots of blood present around pooled/Large/main stain but predominatly in lower right corner. Possible bubbles rings within main stain. 2) Void area to middle/bottom left side/corner which is next to the lower left edge of impact pattern. notable absense of blood staining in this area, 3) Drip trail consiting of 8 large circular blood stains extending from lower left corner to top right corner. 4) Wipe. Drip stain in in top right corner appears altered with smeared blood stain leaving perimeter stain. 5) Drip trail appears to have been deposited after impact as sole drip stains overlay directional stains/spines assciated to impact pattern.
FGUUGK-5605	There is an irregular pattern consisting of a volume of blood that appears to have some force behind it. The upper and lower right margins exhibit spines leading out from the blood volume. Bubble rings are distributed not only in the primary volume, but also amongst some of the spines and heavy spatter type stains pointing away from the main pattern. This is an apparent expiration pattern that happens to have a void at its lower left margin. Multiple passive drip stains form a roughly linear (slightly curved) drip trail that continues from the lower left of the photograph to the upper right corner. One of the circular drip stains in the upper right is an altered perimeter stain. This wipe is the result of movement through the middle of the stain from left to right.
FUJQFX-5601	An impact pattern in the upper left of field consisting of a large irregularly shaped stain with spine-like edge characteristics, with radiating elliptical spatter stains. A drip trail, consisting of large circular drip stains arranged roughly linearly, is present between the upper right and lower left corners of the field. A wipe passing from left to right through one of the drip stains is present in the upper right of the field, leaving behind an altered perimeter stain where the drip stain was deposited.
FW7AGV-5605	Observations 1: Large volume blood stain in the upper left corner bears a distorted peripheral edge. Fine elongated spine-like projections and spatter with directionality radiate away from the periphery of the stain. At the lower right of the stain, some flow paths have formed, flowing away from the central area of the stain. The pattern is incomplete with a notable absence of blood in the lower left edge of the pattern. Some areas of the stain exhibit signs of physiological alteration; bubble rings are present throughout the pattern and the central area of the stain is visibly paler in colour. A void is present in the lower left edge of an otherwise complete pattern, suggestive that someone or something has blocked the pattern from forming in this area. The stain appears to be a splash pattern, formed by a large volume of liquid blood falling onto the surface. However, I would not exclude a spatter stain, from a force being applied to liquid blood already present on the horizontal surface. The bubble rings present across the pattern have resulted from air being present in the blood at the point of deposition. Observations 2: A number of round blood stains of a similar stains to the right side of the previous pattern. The diameter of the stains range in size from approximately 14mm to approximately 23mm in diameter. The edge characteristics of the stains bear some disruption caused by the nature of the target surface the stains have been deposited onto. The stains are drip stains, from blood dripping onto the target surface. Observations 3: A drip stain in the upper right corner of the image with the central area having been partially removed. The edge characteristics of the stain are visible. The removal of

TABLE 3: Recognition and Description

Item 5, continued

WebCode-Test	Detailed Pattern Description
	the central part of the stain, whilst this portion of blood was still wet, has occurred in a direction moving left to right. This is a wipe stain, formed by wiping of a drip stain, the wipe occurring in a left to right direction. This has resulted in the formation of a perimeter stain.
FW83GN-5605	Bloodstain patterns are present throughout the image presented as Item 5. In the left corner is a impact pattern. A small void is present along the bottom left side of this stain. A drip stain pattern consisting of approximately eight drops starts at the bottom left corner and goes to or from the top right corner. One of the stains in the top right corner was allowed to partially dry and something moved through it, The edges of the stain is a perimeter stain. The blood moved from the original drop and moved to the right is a wipe.
FZ7KDV-5605	Several bloodstain patterns can be recognized in the image of item #5. Extending in a linear orientation, from the bottom left portion of the photograph to the top right portion, are several circular spatter stains. The individual stains had no evident flows, no progressive change of impact angle, and were consistent in appearance with a drip trail. A drip stain located in the top right portion of the photograph was altered from the pre-existing stain with no spatter or spines apparent and movement through the stain from left to right, resulting in a wipe patter. In the top left portion of the photograph was a non-spatter stain, which contained volume accumulation, irregular margins, and numerous spines and satellites radiating out from the parent stain, resulting in a splash pattern. A void was observed in the lower left portion of the splash pattern.
G2FRFN-5605	An impact and a void pattern are in the upper left corner of the image and a drip trail is between the lower left corner and upper right corner of the image. One of the drip stains in the upper right of the drip pattern had been wiped by an unknown object.
G477LD-5605	These patterns were reportedly found in the home of a victim deceased under suspicious circumstances. This photograph depicts a blood pool (a bloodstain resulting from an accumulation of liquid blood on a surface) near the upper left corner of the image with elliptical and linear bloodstains radiating from it. The radiating bloodstains are a result of an impact (a bloodstain pattern resulting from an object striking liquid blood) into the blood pool. An area adjacent to the blood pool shows evidence of a void (an absence of blood in an otherwise continuous bloodstain or bloodstain pattern). Nine drip stains (a bloodstain resulting from a falling drop that formed due to gravity) form a drip trail (a bloodstain pattern resulting from the movement of a source of drip stains between two points) between the bottom of the photograph to the upper right corner of the photograph. Additionally, one of the drip stains near the upper right corner of the photograph is an altered stain (a bloodstain with characteristics that indicate a physical change has occurred); specifically, the stain appeared to be a wipe (an altered stain resulting from an object moving through a preexisting wet bloodstain).
GBPAV2-5601	In reviewing the evidence provided in Item Number 5, I have identified the following blood stain patterns on the target surface, Expiration, Bubble Ring, Parent Stain, Drip Stain, Altered Stain, Perimeter Stain, Wipe, Drip Trail, Edge Characteristics, and Satellite Stain.
GDRARR-5605	This is a complex pattern exhibiting multiple pattern types. A drip trail is noted spanning from the lower mid-left side of the image to the upper right corner. A single drip stain near the upper right corner of the trial has been altered by an object passing through it. A projected pattern is noted in the upper left corner area of the image with a potential void on the lower left corner from 6-9 o'clock on the stain.
GMZKJQ-5601	In the upper left-hand corner of the target a source of blood with a disrupted center is observed with spines and associated spatter stains radiating out from it; therefore, an impact pattern is observed. Most of the target has spatter stains radiating out from the impact pattern; these spatter stains were round to elliptical. There is a linear arrangement of mostly round drip stains from the bottom left side of the target up to the upper right-hand corner of the target (not necessarily the direction of travel); therefore, a drip trail is observed. There is a round perimeter

TABLE 3: Recognition and Description

Item 5, continued

WebCode-Test	Detailed Pattern Description
	stain (what appears to have been a drip stain) within the drip trail (near the upper right-hand corner of the target) that has been altered by some means, via moving the blood within the stain to the right of the target, thus creating a wipe.
GP4DHV-5605	The first pattern indicated is a DRIP TRAIL that appears on the target generally between the upper right and the lower left sides. One DRIP STAIN within this pattern (3rd from the top) has an ALTERED STAIN appearance indicating that it was subjected to outside forces and became a WIPE pattern towards the right and slightly downwards. The upper left portions of the target demonstrate a PROJECTED PATTERN with a generally rounded PARENT STAIN, numerous elongated spines from the edge of the parent stain and additional SATELLITE STAINS observed radiating outwards from the parent stain. In addition, an apparent VOID is present in the overall PROJECTED PATTERN and is located in the lower left quadrant of the pattern, observed as a lack of staining in this area.
GT4NDV-5605	There were four distinct bloodstain patterns/areas of interest (labeled A-D) on the tile target. An impact pattern (A) is present on the top left of the target. The resultant impact pattern on the horizontal surface is best attributed to a pre-existing bloodstain being impacted by an object that obstructed blood deposition on the lower left portion of the tile which resulted in a large void (B). A linear distribution of drip stains (possibly part of a drip trail, C) is present on the tile spanning between the bottom left and the top right of the target. A wipe (D) is present through one of the individual drip stains exhibiting a 3 o'clock directionality.
GY9MMZ-5601	Impact pattern of blood in the upper left hand corner with a void in the lower left corner of the impact pattern. A drip trail goes from bottom left hand corner towards the upper right hand corner. One of the drip stains in the upper right hand corner has a wipe through it, going from left to right.
HN7K23-5605	Nine circular stains with scalloped edges ~1.5cm, arranged in a semi linear pattern - drip trail. 1 of these stains is a perimeter stain. Elongated, fine spines, radiating from a central parent stain (~9x8cm). >50 circular and elongated elliptical stains radiating from the parent stain, ranging in size from (2cm - <1mm) - impact pattern. Possible void on the bottom left hand side of the parent stain
HTHLTZ-5605	There is a projected pattern on the left upper portion of the target. A drip trail extends across the target adjacent to the projected pattern. A drop in the top right portion of the target exhibits a wipe.
HW3JA4-5605	The pattern found in the vinyl tile are: splash pattern with bubble ring, drip tail, drip pattern, satellite and wipe. There is splash pattern because there are a big stain of liquid blood and other drops causing the drip stains.
J2AACA-5605	There is a drip pattern adjacent to a splash pattern. One of the drips has a wipe from left to right with an (skeletonized) edge characteristic.
JEWGAB-5601	Observation A - An expiration pattern top left of the image, the pool is approximately 3.5" x 3.5, the radiating stains cover an area of approximately 9.5" x 6". Observation B - A possible void pattern in the 6 to 9 O'clock quadrant of the expiration pattern. Observation C - Drip Trail located top right to bottom left, approximately 9 stains ranging from 15mm to 22mm. Observation D - One of the stains in the Drip trail shows a perimeter stain, wipe from left to right approximately 2"
JQALEK-5601	A spatter stain is seen with bubble rings in parts of the stain. This is consistent with an expiration pattern. More information regarding the victim's injuries and proximity to the stain is need to further classify this stain. There is a drip trail to the right of the above stain. One of the circular stains has been altered (wipe) from left to right.

TABLE 3: Recognition and Description

Item 5, continued

WebCode-Test	Detailed Pattern Description
K8VHGZ-5601	In the top left corner of the image is a blood pool which has been altered by an object striking the pool of liquid blood from the lower left of the image. This has subsequently created an impact pattern as the impact of the pattern has caused the blood within the pool to displace and has created a large number of satellite spatter stains with long spines showing directionality away from the pool. Consideration was given as to whether this pattern could have been caused as a splash pattern with a void to the bottom left corner of the pattern however, when attempting to recreate this pattern in the laboratory, the splash patterns created did not produce the satellite spatter stains with long spines that were observed in the image. This pattern is therefore an impact pattern from an object striking the liquid blood pool. With regards to the other bloodstains in the image, a drip trail traverses between the left corner of the image the upper right corner of the image. One of these stains in the drip trail has been altered by an object moving through the partially dry circular drip stain. This has caused a wipe pattern to the right of the stain and left behind a perimeter stain to the original stain.
K9RXNQ-5605	The bloodstain patterns depicted in the digital image (item #2-1-1-5) consist of a drip trail and an impact pattern. The drip trail is oriented diagonally from the lower left to the upper right as viewed facing the image. The individual drip stains within the drip trail lack sufficient edge characteristics to determine the directionality of the drip trail. One of the stains in the drip trail is a wipe stain. An impact pattern is located in the upper left corner as viewed facing the image. The edge characteristics of the parent stain of the impact pattern includes spines. Additionally, the parent stain is surrounded by spatter stains. To the lower left of the parent stain is a void area.
KDV4ZM-5605	This complex pattern consists of a drip trail extending between the upper right and lower left of the image. A drip stain, along the line of the trail, has been altered by a wipe leaving a perimeter stain. An impact pattern with transfer stain, caused by an object impacting a volume of blood on the tile is in the upper left of the image. Multiple spines and spatter stains radiate from this pattern as well.
KFA9XK-5601	An impact pattern is present in the upper left area of the target with a void present in the lower area of the pattern. Several drip stains are present in a linear arrangement extending across the target (bottom left and upper right) indicating a drip trail. A wipe is present in the upper right area of the target with directionality from left to right through an apparent drip stain (perimeter stain present).
KHRPTB-5601	Starting in the upper left-hand corner of the image there is a parent bloodstain that measures approximately 8 cm X 10 cm. This parent stain appears to have an area near the center of the stain where the blood was displaced and a portion of the vinyl tile is visible in this area. The parent stain has sharp spines radiating from it; the most prominent spine is approximately 12 cm in length and 1 cm in width and travels in a direction that is toward the bottom of the image. Additionally, there appears to be a heavier distribution of blood on the right-hand side of the parent stain vs the left-hand side. Individual elliptical and circular spatter stains are also noted in the image and are detached from the parent stain. A larger of the elliptical spatter stain measures approximately 2 cm in length and 3 mm in width when measuring the stain in its entirety (tail included). The spines appear more pronounced than the spatter stains do in this image. Also present in this image is a series of at least nine individual drip stains that could be considered a drip trail. Although in casework, a typical drip trail is usually longer than the approximate 35.5 cm that this pattern measures. The individual drip stains in this pattern range in size from approximately 1.6 cm to 2.3 cm in diameter and are primarily circular indicating very little directionality. Two of the drip stains appear to have fallen partially on top of another drip stain. One of the drip stains is an altered stain making it a wipe pattern and a perimeter stain. It is observed that the drip stains in the lower left-hand side of the image have smooth edges, whereas the drip stains in the center and upper right-hand side of the image have disruption around their edges. The bloodstain patterns present in this image are suggestive of a

TABLE 3: Recognition and Description

Item 5, continued

WebCode-Test	Detailed Pattern Description
	series of drip stains that could be considered a drip trail, and a pool of blood that has been impacted to create an impact pattern.
LBPY7Y-5601	On the top left corner of the photograph there is an irregular shaped stain with greater than 50 elliptical stains emanating from the irregular shaped stain in 270 degrees (absence of staining - void - in the 90 degrees below and to the left of the stain). Majority of elliptical stains are very elongated indicating a very small angle of impact. Greater than 10 larger elliptical stains (up to ~5mm diameter) also emanating from the irregular shaped stain -> Impact Pattern with a void. On the top right hand side to bottom left side of the photograph there are at least 8 near circular stains (~15-22 mm diameter) -> Drip trail. One drip stain has been altered by way of wiping from left to right (of photo), leaving a perimeter stain.
LLPK4X-5605	Item 5 contains two overall patterns – one on the left side of the image and one on the right (left and right are as facing the image). The pattern on the right side consists of a diagonal drip trail made of approximately 8 intact drip stains and a partial drip stain at the upper right corner of the image. The stains in the drip trail are approximately round with slightly ruffled edges and this is indicative of the stains striking the vinyl tile at approximately 90 degrees. Two of the drip stains near the bottom left corner overlap and appears to be only two overlapping drip stains. One of the drip stains near the upper right corner is an altered stain with clear perimeter staining and is characteristic of a wipe pattern. The drip trail is in an approximate diagonal across the image and I am unable to determine any direction of travel. The pattern on the left hand side of the image consists of a central stain with visible spatter traveling out and away from the central stain. There are also spines radiating out from the central stain. The presence of spines indicate that some amount of force struck the blood on the vinyl tile and is indicative of this pattern being an impact pattern. The vinyl tile is also visible through portions of the central stain and it looks like the blood has been dispersed from these areas. There are also areas within the pattern with visible cracking which indicates that time has passed and the blood has dried. Within the impact pattern are also clusters of bubble rings. I do not see any signs of dilution or foreign material (e.g. mucus) and the pattern is not consistent with an expiration pattern. The bubble rings could be an artifact from pattern creation or some other unknown source. I am unable to determine the sequence of pattern deposition since the interaction between the impact pattern and drip trail are minimal. Some amount of time has passed since there is cracking visible on portions of some of the stains and this shows the blood has dried. Additionally, I am able to determine that the wipe occurred after the drip trail was made since the drip stain dried partially before some object/item was moved across it.
LNBFTB-5605	An impact pattern with a void at the lower left corner was found on the upper left corner of the vinyl tile. A drip trail was found between the upper right and lower left of the vinyl tile, however the direction of the movement cannot be determined. A wipe was found overlapping with a drip stain on the upper right corner of the vinyl tile.
LYUUTT-5605	Item 5 is a complex bloodstain pattern that includes an impact pattern, a drip trail, and a wipe. The impact pattern is in the upper left corner and covers an area of approximately 30 cm x 22 cm. It is comprised of a central stain measuring approximately 8 cm x 9 cm with elliptical-shaped spatter stains radiating from the 9 o'clock to 6 o'clock positions. The drip trail is approximately 35 cm long and is between the lower left corner and the upper right corner. It is comprised of nine drip stains ranging from approximately 12 to 22 mm in diameter. One of the drip stains in the upper right corner has been wiped through in a left to right direction. The wipe stain covers an area of approximately 1.5 cm x 5 cm.
M4LDC3-5605	Photo showing smooth vinyl tile in a horizontal plane. Starting in the lower, slightly left of center corner is a drip trail spanning from there to the upper right corner. The drip stains within the trail are approximately 90 degrees. From the upper right hand corner of the drip trail, three drip stains into the trail is a wipe with movement to the right. The drip stain dried for an undetermined amount of time prior to the wipe. This drip stain is an altered stain after the wipe. In the upper left

TABLE 3: Recognition and Description

Item 5, continued

WebCode-Test	Detailed Pattern Description
	corner is a projected pattern that impacted the target with a volume of blood with enough pressure to create satellite stains.
M9X3DY-5601	Larger stain on top left corner appears to be an impact into wet blood with spatter stains of blood radiating out – appears to be a void within the larger stain. Also, a few drip stains, one of the drip stains has a wipe pattern.
MC2XYM-5605	In the upper left hand part, there is an irregular bloodstain with numerous spines. In the right and center lower part of this stain there are elliptical spatter stains and a void in the left lower part of the stain. Those observations are compatible with an impact to a blood pool on the floor. From the lower left hand part towards the upper right hand corner, there are round bloodstains consistent with a drip trail. In the upper right hand part, one of the drip stain from the drip trail has been altered by a wipe in a left to right motion, resulting in a perimeter stain.
MH7THM-5605	The image depicts an impact spatter stain in the upper left corner. There is a drip trail that is oriented diagonally within the image from the upper right corner to roughly the lower left corner. Within the drip trail, one of the drip stains in the upper right corner exhibits a perimeter stain which has been wiped through.
MQYBRP-5605	In the upper left quadrant of the tile there is a splash pattern (with associated features of the pattern extending outwards across the tile). There is a void area to the lower left portion of splash pattern. There is a drip trail (consisting of multiple drip stains) extending from the lower left hand side to the upper right hand side. One of the drip stains (towards the upper right side) has been subsequently wiped (a wipe) resulting in a perimeter stain.
MTMJGR-5605	Approximately 9 apparent reddish-brown drip stains, circular in shape, ranging in size from ~14mm in diameter to ~23mm in diameter. One drip stain appears to be a perimeter stain with a wipe pattern moving towards the right side of the overall image. There is a large parent reddish-brown stain in the upper left corner of the overall image, with several spines and satellite spatter surrounding all but the lower left quadrant of parent stain. This is consistent with an impact pattern with a possible void on the lower left side of the parent stain.
MVT338-5601	I note at least three distinct bloodstain patterns located on the vinyl tile. There are large volume, blood drops ranging from 14mm to 22mm in diameter, with scalloped edge characteristics that appear round indicating they dropped from a blood bearing source at or near a 90 degree angle from the source to the target surface. One of these round drops, located in the 2 o'clock position partially dried before it was altered or disturbed. This stain appears to have a wipe pattern with left to right directionality through the middle removing the center of the stain and leaving a perimeter stain. There is a bloodstain splash pattern approximately 8cm in diameter with surrounding elongated, narrow bloodstains radiating out from it, at a very acute angle, close to the horizontal plane. There appears to be an absence of blood or a void area in the lower left of this bloodstain pattern indicating there may have been an object there during the blood shed event that was later moved.
N6EM3X-5601	The pattern comprises numerous individual bloodstains on the vinyl tile. A set of drip stains are present between the lower left corner of the tile and the top right corner of the photograph. One of these drip stains has been altered by wiping (wipe directionality from left to right as photographed), causing the production of a perimeter stain. A large central bloodstain in the top right of the photographed area in my opinion is an impact pattern which has resulted from an object striking a pool of existing liquid blood.
NDPNNX-5605	Extending between the bottom left corner through to the upper right corner, is a series of circular shaped drip stains, forming a drip trail. In the upper right corner, one of the drip stains shows a displacement of blood from the central portion of the stain in the form of a wipe. The wipe is from left to right, creating a perimeter stain comprising of the dried outer ring of the original drip stain. In the upper left corner of the image is a splash pattern, comprising a central pool of blood

TABLE 3: Recognition and Description

Item 5, continued

WebCode-Test	Detailed Pattern Description
	with radiating spines and satellite spatter. There are apparent bubble rings visible throughout the splash pattern. These bubble rings may be suggestive of a possible further classification as an expiration pattern. This cannot be confirmed however without further information, including the nature of any injuries to the deceased.
NGRQ89-5605	Item 5 was an image of vinyl tile in the horizontal plane with multiple bloodstains. I examined the item and observed the following bloodstains. A drip trail formed by nine drip stains between the upper right corner and the lower left corner. One of the drip stains has been wiped through and a perimeter stain is present. An impact pattern is located in the upper left corner. There are several bubble rings present in the impact pattern. A void is present in the lower left area of the impact pattern.
NJTUWA-5605	In the upper left of the image there is a large blood stain. There appears to be some bubble rings associated with this stain. The perimeter of this staining indicates that it is a splash pattern or that there has been an impact into liquid blood event. There appears also to be a void to the lower left of the stain where the satellite stains have not extended. There is a drip trail consisting of nine drip stains between the lower left corner and upper right corner. The direction of this trail could not be determined. The third stain from the upper right corner is an altered stain. It has been altered by wiping to the right. The action has left a perimeter stain and a wipe pattern.
NLFJCF-5605	The primary pattern observed in this item is most likely an impact pattern – a bloodstain pattern resulting from an object striking liquid blood (indicating a pool of blood or a very bloody object was struck by an object). There are some bubble rings observed inside the pool of blood, with satellite stains and stains showing directionality radiating out from the pool. Additionally, there is a drip trail of drip stains to the bottom and right side of the primary pool of blood. In the drip trail is a drip pattern (one drip stain dripping into another drip stain), and also a drip stain with a perimeter stain and wipe moving through the stain from left to right. There is also an apparent void observed to the left of the primary pool of blood.
NMT336-5601	Four main bloodstain patterns can be identified on the item 5 picture. From left to right, an impact pattern is identified, characterized by its radiating spatter pattern whose the origin is located on a pre-existing mass of liquid blood. This latter presents a long extension from top to bottom with bubble rings pattern in the vicinity of the impact area of origin and within the majors spike of the pre-exisiting stain suggesting the mass of liquid blood comes from an expiration mechanism (spitted blood ?). Satellites stains containing bubble rings are also observed in lower/right hand side. One can notice on the bottom left side of the "impact on expiration pattern" a bloodless zone, creating a void. Finally, a drip trail is identified from the lower left hand side to the upper hand side of the picture. It consists of 9 circular shaped bloodstains. Spikes orientations and bloodstain overlapping suggest a main motion of the blood source from top to bottom and right to left. One of the bloodstain presents a wipe alteration whose motion went from left to right.
NTGN97-5601	The photograph of the bloodstain pattern on the vinyl tile is composed of two main bloodstains. Stain A is largely located in the upper left-hand corner of the photograph and is an impact pattern. An impact pattern is a bloodstain pattern resulting from an object striking liquid blood. There appears to be a void at the lower left side of the impact pattern. A void is an absence of blood in an otherwise continuous bloodstain or bloodstain pattern. Elliptical drops are noted around the main impact stain and these drops indicate movement away from the main stain. Stain B extends from the upper right-hand corner to the lower left-hand corner and is a drip trail. A drip trail is a bloodstain pattern resulting from the movement of a source of drip stains between two points. A drip stain is a bloodstain resulting from a falling drop that formed due to gravity. The drip stain in the upper right-hand corner of the photograph indicates that the stain has been altered by a wipe leaving a perimeter stain. An altered stain is a bloodstain with characteristics that indicate a physical change has occurred. A wipe is an altered stain resulting from an object moving through a pre-existing wet bloodstain. A perimeter stain is an altered stain consisting of

TABLE 3: Recognition and Description

Item 5, continued

WebCode-Test	Detailed Pattern Description
	its edge characteristics, the central area having been partially or entirely removed. The wipe started at the blood drop and moved to the right.
P2WMKW-5605	Upper left corner of the photo: 1 x irregular shape stain with discrete margins. radiating elongated stains/spines -possible bubble rings. some areas of the staining is lighter in density. apparent associated elliptical stains (width ~ <1mm - 4mm) stains surrounding the main stain - Impact pattern with associated satellite stains. Lower left corner of photo: Absence of staining in otherwise continuous pattern -void. Diagonal from top right corner to lower left corner: ~8 near-circular stains with discrete margins (width ~ 10mm - 15mm). 1 of the near-circular stains has perimeter staining and light coloured elongated staining - Drip trail, with one drip stain being altered by wipe.
P69NCU-5605	In the upper left quadrant of the photo there is a irregularly shaped bloodstain with long spines and satellite stains and accompanying drops radiating out from the parent stain. The main (center) portion of the bloodstain is approximately 90X90 mm; the spines and satellite stains reach the length and almost to the right edge of the photo. There are several bubble rings present in the parent stain and in some of the satellite stains. There is a void where the lower left quarter of the stain would be if it were present. The bloodstain has the appearance of an impact pattern. Sitting diagonally across the photo from the upper right corner to the lower left corner is a drip trail consisting of several circular drip stains ranging in size from approximately 15 to 20mm in diameter. One of the drip stains has been altered leaving a perimeter stain indicative of a wipe pattern.
PAP26U-5605	A set of four patterns with different characteristics is observed: At the left of the upper part of the image, we can observe a matrix stain formed by a mixed pattern, first created by a volume of blood spilled on the surface creating a splash pattern (Splash), in which rounded and spiky stains are generated with a downwards direction from the matrix stain. Subsequently, an impact is produced with an object in the left part of the matrix stain, causing an impact pattern and splash spots in the upper left part of the matrix stain, which acquire a thornier and elongated shape due to the force of the impact. On the other hand, from the lower left part to the upper right one of the image, nine drops of blood are observed; they fall from a moving object, impregnated with blood, due to the gravity. The drops are deposited on the surface at an angle of 90°, thus forming a “drip trail” pattern. In the upper right part of the image, one of the drops is altered by an object that is deposited and moved on it, from left to right, producing an alteration of the central part of the drop, leaving the perimeter of the drop on the surface (spot of perimeter (Perimeter Stain)) and a drag spot (Wipe). Bottom line: there is a “Splash” pattern, an Impact Pattern, a “Drip Trail” pattern, and a Perimeter stain and a drag spot (Wipe).
PFQBCM-5601	A series of drip stains are present in a linear orientation, diagonally across the plane. One of the upper right drip stains has been wiped through from left to right. A large pool of blood was present near the upper left side of the plane. The stain area appears to have been impacted by an unknown source causing spatter and spine stains radiating from the impacted area. A void is present along the lower left side of the impacted stain area.
PN8PHY-5601	There is a linear series of drip stains between the lower left and the top right of the photo. One of the drip stains has been wiped through with a direction toward the right, leaving a perimeter stain. Toward the upper left of the photo is an altered stain that is approximately 60 by 80 millimetres (mm). There are satellite stains that range in size from ~1 to 5 mm in width that have originated from the lower right area of the altered stain. There were also spine-like spatter stains radiating out from the altered stain. This stain was altered as a result of an object striking the liquid stain, resulting in an impact pattern. Adjacent to the lower left of the altered stain is a void.
PPE8DN-5605	There is an impact pattern in the upper left corner of the target. Large spines and satellite spatter are radiating around the circumference of the center staining, the center of which is altered. It appears there was blood on the target that was impacted. Drip stains, circular stains with

TABLE 3: Recognition and Description

Item 5, continued

WebCode-Test	Detailed Pattern Description
	scalloped edge characteristics, are between the bottom left and upper right of the target and in combination are a drip trail. One drip stain near the upper right of the target is altered by a wipe; the drip stain was pre-existing to the wipe, indicated by the presence of the perimeter stain.
PV2YKG-5601	A DRIP TRAIL, consisting of nine (9) DRIP STAINS, was observed on the right side of the target. A WIPE through one of the drip stains was observed on the upper right side of the target. A PERIMETER STAIN was observed on the upper right side of the target. An IMPACT PATTERN was observed on the upper left side of the target. A possible VOID was observed in the upper left side of the target, associated with and below the above mentioned impact pattern.
PZYDAR-5601	Wipe pattern in the blood droplet in the upper right corner with skeletonization present. Blood drip trail from the lower left corner to the upper right corner. An impact pattern in the upper left hand corner causing satellite surrounding stains.
Q993RW-5601	It may be possible when examining blood stain patterns to make an interpretation of the action or actions which produced the blood stains. I have made these determinations where I am able to, and they are my opinions based on my training and experience in this field. Blood staining can be deposited on surfaces as a result of various mechanisms. Specific defined terms are used to described blood patterns that are characteristic of a particular action occurring. On the left upper area of the image was an area of blood staining with many radiating spines of blood extending from it. Also below and to the right of this area of blood staining were several elliptical blood stains showing a directionality away from the main area. In my opinion this was a splash pattern of blood, which is produced by a large volume of liquid blood falling onto a surface. Across the lower part of the image and up to the top right side were a series of circular blood stains. In my opinion these are drip blood stains, where blood has fallen due to gravity. Taken together they form a drip trail where the source of the blood has moved across the area. One of the drip blood stains at the top right of the image had been disturbed, forming a wipe pattern. A wipe pattern is created when an object moves through a preexisting blood stain. In this case the movement was from left to right.
Q9LN8Z-5605	The bloodstains in the photo shows a splash pattern on the left and a drip trail on the right. The splash pattern on the left measures approximately 75mm in diameter. Towards the bottom left of the splash pattern, there is a void pattern observed, resulting in the absence of spines created by the splash pattern in that area. It is noticed that there is an uneven deposition of blood where it is more concentrated towards the bottom of the splash pattern. Cracks and air bubbles were also observed in the splash pattern. The drip trail on the right of the photo have drips stains measuring from 14mm to 22mm. The drip stains are generally circular; thus it is inconclusive of the directionality of the drip trail. Within the drip trail, only the biggest drip stain (22mm) was observed to have small satellite stains at the perimeter of the parent stain. The top of the drip trail has an altered stain, indicating a swipe motion from left to right of the drip stain after deposition, hence, leaving behind a perimeter stain.
QBEPZU-5605	Item 5, several patterns of bloodstain are observed. There is a splash pattern with bubble rings, another drip trail pattern with a wipe pattern.
QTU2QZ-5605	First Event - Impact Pattern. Second Event - Drip stain with wipe pattern (left to right). Third Event - Drip trail (no proof of direction)
QVKZ6X-5601	Bloodstaining consists of: a series of circular drip stains (approx. 14mm to 21mm in diameter). These drip stains form a drip trail. Some satellite bloodstains are visible around the largest drip stain. One of the drip stains (towards the upper right of the photograph) has been wiped (left to right direction) whilst the stain was still wet, leaving behind the rim of the original drip stain intact. a large volume bloodstain in the upper left of the photograph which has associated, radiating spatter stains. Together, these stains form a splash pattern.

TABLE 3: Recognition and Description

Item 5, continued

WebCode-Test	Detailed Pattern Description
QVKZ8J-5605	Several drip stains can be observed in the right lower part of the image (item 5) that most likely form a drip trail. Additionally, one among these stains (third from the top) can be classified as a perimeter stain, which is a skeletonized bloodstain resulting from wiping through a partially dried stain, having the peripheral rim intact. Finally, in the upper left corner of the image, a spatter stain, that can be further classified as a splash pattern, is present. It is accompanied by numerous satellite stains of elliptical, elongated, or even spinelike appearance (which suggests a large volume of blood was projected with force onto a target surface). The presence of air bubbles within this dried blood pattern also indicates the expiratory mechanism of its formation (resulting in the observed expiration pattern). One can also observe fading of blood's color in the center of the pattern, which may result from the dilution of the bloodstain due to the possible presence of other fluids (e.g., saliva).
R4A7HW-5605	There is a linear distribution of drip stains between the bottom left and top right of the image forming an apparent drip trail. One of the drip stains at the top right has been wiped through (wipe) creating a perimeter stain. A dominant stain at the top left with associated spatter at the periphery, has an irregular perimeter with numerous spines radiating outwards. Overall, this bloodstain pattern includes features of an impact pattern formed when a volume of blood already present on the vinyl tile was subjected to an impacting force. There is a possible void below the main stain.
RFLG6L-5605	On the left upper corner is a bloodstain (approx. 10 by 10 cm) visible with elongated spines and elliptical satellite stains with a directionality outward radiating. There is an absence of spines on one side of this parent stain. The parent stain is altered through an object striking it resulting in an impact pattern (possibly associated with stepping onto blood). There are also nine drip stains with a diameter of approx. 15 mm, following a trail. One of the drip stains is altered through wiping as the edge characteristics are still visible (perimeter stain).
RGF7AF-5601	A Drip Trail was observed between the lower left hand corner and the upper right hand corner of this target. A Wipe was noted on the upper right side of the target through one (1) of the drip stains from the drip trail. An Impact Pattern was observed on the upper left side of the target.
RLNRQK-5601	Bloodstain Pattern Item 5 shows a large volume of blood at the upper left side of the tile. An impact pattern is noted due to the radiating blood surrounding the parent stain. A drip trail is noted at the bottom left of the tile and continues up the right side of the tile to the upper right corner. A wipe stain is observed in one of the blood drop stains moving from the blood droplet to the right. Edge characteristics are observed in the blood droplet containing the wipe pattern.
RPNVPY-5601	Item #5- Based on the choices provided, the following patterns were observed: An impact pattern was visible in the upper left corner of the image. It had a radiating distribution. A drip trail was visible extending from the bottom left corner to the upper right corner of the image. It had a linear orientation with no flow in the individual stains. A perimeter stain was also visible within the drip trail, and a wipe through this stain was visible.
RPPTXA-5605	A bloodstain consistent with an impact pattern containing small bubble rings is observed in the upper left corner. A possible void is observed along left edge of photo within the impact stain. A stain consistent with a drip trail traverses between the lower left and upper right corners. An altered stain, consistent with a wipe, is observed in one of the drip stains (within the drip trail) towards the upper right corner. A possible drip pattern is observed within the drip trail at the bottom of the photo towards the lower left corner.
RUJMWV-5601	There is a volume of blood impacted on the surface on the top left of the photograph (possible splash or projected pattern). There is a void in the bottom left of this pattern. There are drip stains from the bottom left of the photograph to the top right (no directionality). There is a wipe pattern across one of the drip stains from left to right that leaves a perimeter stain.

TABLE 3: Recognition and Description

Item 5, continued

WebCode-Test	Detailed Pattern Description
RWBNYD-5601	There is an impact pattern on the upper left side of the target with spatter stains over most of the target. There are nine (9) drip stains creating a drip trail between the lower left corner of the target and the upper right corner of the target (direction of travel not determined). A wipe is present through the third drip stain from the upper right corner in the drip trail. The movement of the wipe is from left to right on the target.
RYEGWH-5601	Drip trail displaying linear distribution of stains that are consistent in size range. wipe with perimeter stain near the upper right corner of the photo. Movement is observed from left to right. impact pattern with radial distribution away from the point of impact. Elongated stains with directionality. Void observed along the center / lower left portion of the photo
RZBYUD-5601	An impact pattern consisting of an irregularly shaped parent stain surrounded by spatter stains is present in the upper left quadrant of the photograph. There is a void in the stains surrounding the parent stain of the impact pattern (potentially due to the object making the impact) in the lower left quadrant of the photograph. A drip trail extends between the lower left corner of the photograph and the upper right corner of the photograph. A wipe is present near the upper right corner of the photograph, where a drip stain (overlapping an adjacent drip stain within the pattern) in the drip trail is altered by an object moving left to right, leaving behind a perimeter stain.
T2ZFRR-5601	Impact pattern from the blood (pool) source in top left corner. Long narrow, radiating stains indicative of blood source being close to the ground. Directionality is away from the blood source. Possible flow pattern from the lower portion of the blood pool over the top of some of the impaction stains, indicating flow occurred post the deposition of the impact bloodstain patterns. Drip stains between bottom left corner and top right corner forming a drip trail. Drip stain near the top right corner has been wiped through leaving a perimeter stain. Direction of the wipe is from left to right.
TAT3BB-5605	This area contains more than one pattern. In the top left corner there appears to be an altered stain. At one time the stain may have been a pool but since has been disturbed or has undergone a physical change from an outside force. This force that has been applied caused spines and impact pattern stains to radiate outward. The stains show directionality back towards the main center part of the altered stain. In the other half of the image there is also a drip trail. One drip located in the top right area of the image is specifically altered with a wipe through it leaving behind a perimeter stain.
TELVRL-5605	Either an impact pattern or a splash pattern is noted in the upper left hand corner of the image. There is a void within the bottom of this pattern. To the right side of the image is a drip trail that runs nearly diagonal through the image. A wipe pattern is noted through one of the drip stains of the drip trail at the upper right hand corner.
THHNGA-5605	Impact pattern with associated spines radiating in top left of image. Drip trail from lower left of image to top right, unable to determine direction. Stains range in size from approximately 11mm - 16mm in diameter. A wipe through one of the stains in the top right, with perimeter stain remaining.
TM2GWH-5605	Item 5 is a color image depicting bloodstain patterns reported to be on a textured vinyl tile in the horizontal plane. A drip trail extends diagonally across the image from the lower left corner to the upper right corner and may extend beyond the image edges. The drip bloodstains range in size from approximately 12mm to 17mm and exhibit scalloped edges. One of the drip bloodstains in the upper right corner has been wiped through creating a perimeter stain. The wipe direction is left to right and slightly downward. An impact spatter pattern originated from the upper left area of the image and has a radiating stain distribution that covers a majority of the image. The spatter stains range in size from approximately less than 1mm to 4mm. A void exists in the area to the direct left of the source area of the pattern and downward towards the lower

TABLE 3: Recognition and Description

Item 5, continued

WebCode-Test	Detailed Pattern Description
	left corner. The bloodstains of the impact pattern are intermixed with the other patterns; however, no definitive sequence of deposition could be determined.
TYVWLJ-5605	Item 5 was a photograph of bloodstains on a vinyl tile on a horizontal plane. The proper orientation of the photograph is with the scale on the upper and left edges of the photo. There was a large red-brown non-spatter stain near the upper left corner of the photo. This stain had an irregular shape with irregular margins and volume accumulation within the stain. There was an irregular distribution of blood within the large stain. There were spines around the margin of the stain. The stain measured approximately 70mm x 100mm. There were bubbles present in this stain. There were secondary spatter stains with directionality from this large stain. This was a splash pattern. On the lower left side of the splash pattern was an area with no spines and no spatter. There was a cone shaped area of the parent stain of the splash pattern that was missing. This area was a void. There were at least nine (9) red-brown circular stains with regular margins ranging from the lower left area up to the upper right corner. These were in a linear orientation. The stains were all roughly the same size. There was no change in the angle of impact of these stains. This was a drip trail. One (1) of the drip stains within the drip trail was altered. The shape of the stain showed a perimeter stain with the center moved and an irregularly shaped stain to the right. This irregularly shaped stain had striations within it. This stain was a wipe.
U2DCQ6-5601	The bloodstained region consists of at least 3 types of patterns. The first pattern is made up of circular stains, measuring approximately 14 to 23 mm in diameter. These are present in a general linear orientation from the bottom left to the upper right of the photograph, covering a distance of approximately 340 mm. These stains have scalloped edges and are best described as "drip" stains making up a "drip trail." One of the drip stains in the above described pattern is an "altered" bloodstain. This is evidenced by a defined "perimeter" an associated "void" area in its center and an associated "wipe" pattern contiguous on its right side. The wipe pattern has a varying concentration of blood with an accumulation at its terminus right end and measures approximately 10 mm in width x 31 mm in length. The third pattern consists of a large irregular bloodstained area in the upper left of the photograph, covering an area of at least 80 x 65 mm. This stained area has several outward radiating bloodstains around approximately 3/4 of the main ("parent")stained area; extending outward at least 200 mm from the center of the pattern. In addition, several outward directional spatter stains are evident around the stain. These spatter stains range in size from approximately 2 x 1 mm to 3 x 8 mm. Based upon the above described characteristics, this pattern is best described as an "Impact" pattern.
U8J6L2-5601	A splash pattern is present in the top left corner. Spatter stains resulting from the splash pattern have multiple directions of travel. The spatter stains at the bottom of the pattern are larger with bottom and bottom right directions of travel. There is a void on the bottom left side of the splash pattern. A drip trail is present between the bottom left corner and the top right corner. Unable to determine direction of travel for the drip trail. There is a wipe through one of the drip stains in the top right corner, creating a perimeter stain.
UK8ATX-5605	Series of drips of blood - drip trail between bottom left and top right of image. One blood drip towards top right has been wiped through after deposition but before fully dried causing a perimeter stain to remain. Projected stain to top left with associated satellite staining radiating from this. Apparent bubbles noted to main stain and to spatter. Volume of blood projected onto floor. Possible void to lower left of main projected stain. Unable to determine whether drips before or after or same time as projected staining
UK9828-5605	The target had an impact pattern in the upper left corner and a drip trail. One of the drip stains near the top right of the target was wiped through, leaving a perimeter stain. A void was present near the impact pattern, approximately in the mid-to-lower left area of the target.
UQCZ8W-5605	There is a splash pattern with the presence of bubble rings, suggesting that it may be part of an expirated pattern. There are also drip stains, and a wipe pattern across one of the drip stains as

TABLE 3: Recognition and Description

Item 5, continued

WebCode-Test	Detailed Pattern Description
	shown by the presence of movement (left to right) across the perimeter stain.
UZ2UER-5601	There is a large stain on the top left of a central stain and long spines radiating out from centre is what I would expect with a splash pattern or an impact into a pool of blood on the floor. There are also spatter stains associated with this stain. There is also a possible void near this stain, so I can't exclude the possibility that there was originally an object present when the pattern was created and has since been removed. On the bottom of the image and up towards the top right side of the image are 9 round stains, 2 sets of which are overlapping and the top right stain is only partly visible ~17-22 mm in diameter. One of the large round stains near the top right hand side is missing the centre of the stain, and there is staining similar width to the inside of the round stain on the right side of the stain. These stains are drip stains forming a drip trail between the bottom left side of the tile to the top right side of the tile. An object has moved through one of these drip stains are they have had time to dry creating a wipe pattern.
V3JFFD-5601	A drip trail consisting of drip stains, one (1) of which has been altered by a wipe leaving perimeter staining, is present on the right side of the target. There is an impact pattern in the upper left corner of the target that exhibits a void on the lower left area of the parent stain and spatter staining and spines radiating out from the parent stain.
V6CAE3-5605	There was an impact pattern in the upper left-hand corner of the vinyl tile. A void appeared toward the bottom left side of the impact pattern. Several drip stains were located at the bottom to the top right corner of the tile creating a drip trail. One of the drip stains was wiped through creating a perimeter stain.
VZGFJM-5601	Multiple patterns are observed in the photograph. The upper left stain (primary) displays a splashed pattern with a flow of excess volume. There are elongated secondary satellite stains that are present. There is a drip trail that is visible from the bottom left and the top right of the photo. Within the drip trail is a single drop that displays characteristics of a wipe pattern, in the upper right side of the photo. The wipe stain has skeletonized edges and a lateral movement from the left to the right.
W4UH4X-5605	There is a projection pattern in the upper left quadrant of the image. This projection pattern has an apparent void in the lower left portion of the pattern. A drip stain trail with no directionality is observed in a line from lower left to upper right of the image. One of the stains in this trail near the upper right has a wipe pattern with movement from left to right.
WCKCQU-5605	An irregular-shaped volume of blood, measuring approximately 100mm x 80mm in size can be seen on the left of the image. It has uneven edge characteristics, defined by numerous spines showing directionality that radiate outwards from the blood volume. The spines are not uniformly distributed around the blood, as they are absent in the lower left region and more predominant at the top region. Several small elliptical (about 1-2mm in width) are also observed in the peripherals of the blood volume. Within the blood accumulation, numerous humps with the appearance of bubble ring can be observed. The consistency of the accumulated blood is not homogeneous throughout, as a part of blood volume on the left region appears faint while darker blood clots can be seen on the right. On the whole, the volume of blood bears characteristics of a blood pool. Several large circular stains (ranging from 20mm to 25mm) can be seen in close proximity. These stains have a crowned peripheral, and numerous satellites stains (sub-mm) can be found beside some of these stains. The observations are indicative of drip stains. One of the drips has a defined circumference ring and a void centre. A continuous blood source can be seen extending out from the ring, indicative of movement (towards the right) over the blood drop before it dried. This is an altered stain.
WFPNYG-5605	An impact pattern (labeled A) was present on the upper left of the target. A drip trail (labeled B) was on the target between the lower left and upper right. A wipe pattern (labeled C) with left to right movement was present within a stain in the upper right area of the drip trail.

TABLE 3: Recognition and Description

Item 5, continued

WebCode-Test	Detailed Pattern Description
WMMJT9-5601	There is an impact pattern on the left side of the target with spatter stains radiating out from the parent stain that show directionality back to the parent stain. There is also a void on the left side of it. There are drip stains creating a drip trail on the middle to right side of the target. One (1) of the larger drip stains has satellite stains. One (1) of the drip stains on the upper right side of the target was altered via a wipe resulting in a perimeter stain.
WNGA3U-5601	The bloodstain pattern comprises: at least eight dripped bloodstains positioned from lower left corner to upper right corner, in a linear pattern diagonally across the board, thus forming a drip trail. A possible ninth dripped bloodstain is also present but at the edge of the board so not fully represented. One of the dripped bloodstains near the top right corner has been wiped in the direction of the right side of it and has left a perimeter stain with the edge characteristic (physical feature of the periphery of a bloodstain) of the original drip stain showing. A pool of blood to the upper left of the board, with linear and directional spatters of varying size radiating from the area of origin in a star shape. However there are no spatters radiating from the lower left of the heavy stain thus creating a void area (an absence of blood in an otherwise continuous bloodstain pattern). Bubble rings were present in the pool of blood. This pattern could be either: a) an impact pattern resulting from an object having impacted an accumulation of blood (? Heel stamp into pool of blood), or b) a projected pattern resulting from blood being projected at force onto the target surface thus producing its associated spatters. It is not possible to ascertain the exact cause of the void area but it could be due to the nature of the impact alone, or that an object was present when the blood was deposited but was subsequently removed.
WPBVUY-5605	The image of vinyl tile has multiple bloodstain patterns. I observed an impact pattern which appears more dilute in the center and has numerous spatter stains around the outer edges and bubble rings within the stain. The area of convergence appears to be near the center of the impact pattern. I also observed a drip trail made of multiple drip stains. The drip stains have a similar size and appearance, and the angle of the drips appears to be perpendicular to the tile surface. I also observed a perimeter stain with a wipe traveling from left to right though one of the preexisting drip stains.
WZATFE-5605	Complex pattern consists of impact pattern, drip trail, and wipe stain. Impact pattern is on left side of image. Blood pool which measures 75x100mm is nearly surrounded (approximately 3/4 of the distance around the pool, with a void to the lower left of the blood pool) by radiating spines and spatter stains. Drip trail consists of nine near-circular drip stains that cover area between bottom center of image and top right of image. Drip stains within drip trail have scalloped edges. One of the drip stains within the drip trail has been altered. The third stain from the top of the drip trail has been wiped through with directionality toward the right side of the image. The original drip stain has perimeter staining.
X2ZBW7-5605	On the top left side extending to the right side of the photograph, there is a central irregular shaped red-brown stain measuring approximately 85mm x 87mm. There is an area of disruption in this stain which makes the stain appear light red-brown in color. Air bubbles are also present in this stain. There are irregular, circular and elliptical red-brown stains surrounding this central stain that measure approximately <1mm to 11 mm. Spines are also present on the central stain. The spines and stains radiate out from the central stain in a conical distribution. This stain is consistent with an impact pattern. On the top right/bottom left of the photograph there are approximately 9 circular stains in a linear distribution. These individual stains are drip stains that make up a drip trail. These stains measure approximately 14mm to 24mm. They contain scalloped edges. One of the drip stains in the drip trail contains a perimeter stain due to a wipe. A portion of the center of the stain has been altered from the center towards the right side of the photo. This portion of the stain measures ~33mm long. A void is present inside the perimeter of the stain

TABLE 3: Recognition and Description

Item 5, continued

WebCode-Test	Detailed Pattern Description
X7U7XD-5605	1. Left side of image contains an impact pattern consisting of numerous long spines radiating from center stained area with stain intensity variation not attributable to gravity. Stain size of radiating spatter is less consistent and varies up to approximately 13 mm. The lower left of the pattern is interrupted, showing no obvious staining. 2. Nine approximately circular drip stains ranging in size from 14 mm to 23 mm on bottom left of image to top right, forming a drip trail. No order of deposition was inferred. 3. A drip stain near the top right of the image was altered, forming a wipe.
X8B3NR-5601	On the target surface there is a splash pattern with a void to the lower left hand side. There are bubble rings within the splash pattern and associated satellite stains from the parent stain, some with directionality. There are drip stains with edge characteristic, to the right side of the splash pattern, forming a drip trail. One of the drip stains has been wiped forming a perimeter stain.
X8QNV9-5601	There is a drip trail present between the bottom left and upper right corners of the target. There is a wipe in the upper right corner and a visible perimeter stain. An impact pattern is noted in the upper left corner of the target.
YADMQH-5601	The main pattern in the upper left corner is an impact pattern with a void in the lower left corner of the pattern. There is also a drip trail starting at the bottom of the impact pattern to the upper right corner. One of the drip stains in the right corner has a wipe in the left to right direction, causing it to become a perimeter stain.
YMF6CQ-5605	1) An “impact pattern” on upper left corner of the photograph. The pattern has a “void” on its lower part; besides, there are several bubbles can be observed in this pattern. 2) A “drip trail” besides the impact pattern is stated above. The drip trail contains about 9 “drip stains”, which have their diameter between 1.5cm to 2.1cm. The biggest one of the drip stains has “satellite stains” surrounded. And a “wipe pattern” is founded on one drip stain which resulting from an object moving through a preexisting wet bloodstain. The directionality of the feathered edges of the wipes indicates the object that created the wipes was moving from left to right of the photograph, the peripheral characteristics of the original stain is also obvious, thus, it can be termed as “perimeter stain”.
YMVGX2-5605	The item 5 bloodstain pattern consists of three major elements. The first element is a drip trail between the lower left and upper right corners of the image. The second element is a wipe from left to right of a drip stain in the drip trail . The original drip stain was identified by a perimeter stain not altered by the wipe. The third element is an impact pattern near the upper right corner of the image. A significant number of air bubbles were observed in the impacted blood. The bubbles may indicate that the blood was sourced from a mouth, nose, or another part of an airway; this was not confirmed by other elements commonly associated with expirated bloodstains.
YVEGWM-5605	The pattern found in the vinyl tile was impact pattern and drip stain. There is impact pattern because is a big stain of liquid blood and small drops around causing drip stains.
ZA4BHC-5601	An impact pattern was observed near the top left of the target. A drip trail made up of numerous drip stains was observed extending between the bottom left and top right of the target. An altered stain consisting of a perimeter stain with a corresponding wipe was observed within the drip trail near the top right of the target.
ZB3BMH-5605	There are two main patterns in this photo. 1) There is a "Drip Trail" consisting of 9 circular (aprx 90deg) bloodstains extending from the lower left side of the photo to the upper right corner. The 7th bloodstain in the drip trail (up from the bottom) has been 'altered' shortly after impact, and while the blood was still wet, with evidence of a 'wipe' (or movement) from left to right through the stain by an unknown object. 2) In the upper left hand corner of the photo there is a large bloodstain that has characteristics of a "Projected Pattern", with blood ejected from the body under pressure, impacting the surface with such force to create 'satellite stains' radiating out from

TABLE 3: Recognition and Description

Item 5, continued

WebCode-Test	Detailed Pattern Description
	the parent stain. This projected pattern contains numerous air bubbles and may also be an "Expiration pattern" resulting from blood forced out of the body by airflow from the nose, mouth, or wound. Additional information on official wound descriptions would assist in the final determination of the pattern type, but would be classified as a Projected pattern at this time.
ZHKLXY-5605	Multiple large, circular stains in a general line from bottom left to top right of photo. These drip stains are a drip trail. A large stain with multiple spines in roughly 270* location, roughly 90* of the stain and spines are not visible, showing a void of the stain. The large size of the stain and overall rounded shape indicates a splash pattern. One of the circular stains is altered with a wipe pattern, due to pre-existing perimeter stain visible. Overall bloodstain patterns in Item #5 are drip trail, void, splash pattern, and wipe.
ZJR4U9-5601	The top left of the target contains a volume of blood, parent stain, with spiny projections and spatter stains radiating out from the parent stain. A void is observed on the lower left area of the parent stain. This stain is an impact pattern. The bottom left to top right of the target contains several drip stains in a linear arrangement creating a drip trail. One (1) of the drip stains was altered via a wipe, leaving a perimeter stain.
ZLJXUX-5605	Target is a smooth vinyl, horizontal surface. There is an expiration pattern with several different radiating spatter patterns from the parent stain, indicating blood dripping into it. There is a void in the expiration pattern. Nine other drips were observed; one was wiped before another intersected it and another drip has a second drop intersecting it (a drip pattern).
ZRPQQE-5601	In the upper left corner of the photograph, a complex pattern is present. This pattern can be separated into four distinct patterns. Two of the patterns can be classified as a splash pattern with additional characteristics consistent with an expiration pattern. The splash pattern is characterized by a large central stain containing irregular margins with additional large elliptical stains radiating outward from the central stain. Air bubbles and vacuoles are present within the large central stain as well as the smaller elliptical stains. Along the lower right corner of the large stain, mucus strings are observed. The air bubbles/vacuoles and mucus strings are indicative of an expiration pattern. Several spines are observed as edge characteristics along the upper and lower edges of the large central stain as well as an area in the middle of the large central stain which contains characteristics of displacement of the liquid blood. The edge characteristics and liquid displacement corresponds with an additional impact event having occurred following the deposition of the splash and expiration pattern. This causes the splash/expiration pattern to have characteristics consistent with an impact pattern, the third of the four patterns. A void is observed on the lower left corner of the stain and is characterized by a lack of stains in an area/region where they are expected to appear. This pattern occurred concurrently to the other three patterns which are observed in the overall complex pattern. Along the right side of the photograph (from the upper right corner to the lower left corner), a drip trail is present. This pattern is characterized by large circular stains which appear to have a linear distribution. One of the drip stains near the upper right corner of the pattern has become an altered stain due to the visible edge characteristics creating a perimeter stain that additionally contains striations consistent with movement left to right. This altered stain would be further classified as a wipe pattern. One of the drip stains near the middle of the pattern (just below the wipe pattern) can be additionally classified as a drip pattern. The drip pattern is characterized by small circular/elliptical stains bordering the perimeter of the stain in a random distribution (i.e. satellite stains).
ZY4QVQ-5601	Impact pattern, Drip pattern and Wipe

Additional Comments

TABLE 4

WebCode-Test	Additional Comments
36LPLB-5601	The angle of impact determination section was not completed as per Serology QA Manual, Rev. 6/19, Section 9.C.2.
487ZWZ-5605	The lack of overall photos for contextual reference is a major flaw in the proficiency test. I would never draw a conclusion from a single close up photograph. Secondly, rarely (if ever) is a single answer plausible in forensics. Limiting an examiner to a single answer, coupled with limited photographs, is nonsense.
6MW739-5605	I can say for sure that pattern C was created after pattern B.
6NCHNK-5601	With respect to the pool of blood and associated impact pattern, we also considered whether this may have been caused by a volume of blood being projected downwards onto the floor as this can also create spines radiating from a central stain. However, we discounted this as a likely mechanism due features such as the fineness of some of the spines and the fact that many of them were 'attached' to the central stain.
7WYXQT-5605	I classified Item 4 as a swipe, which I think is the best choice from the options provided. It is a transfer stain with apparent motion. According to the definitions provided with this test, the stain meets the criteria to be further differentiated as a swipe. In casework, I would classify this stain as a smear, as defined by Bevel Gardner Associates. Smear is more specific than transfer because it indicates motion, but not as specific as wipe or swipe.
7X9UAC-5605	Measurement test: Measurement of small bloodstains such as "stain A" using traditional devices such as a caliper have high error rates due to accuracy of measurement problems. Being off in measurement of the width by 1mm (or less) can change the angle of impact determination by 1 or more degrees.
8XNNBX-5601	The angle of impact determination section was not completed as per Serology QA Manual, Rev 6/19, Section 9.C.2.
93GYXH-5605	Terminology: 1)Splash Pattern - A bloodstain pattern created from a large volume of liquid blood falling onto a surface. 2)Drip Pattern - A bloodstain pattern resulting from a liquid that dripped into another liquid, at least one of which was blood. 3)Wipe - An altered stain resulting from an object moving through a preexisting wet bloodstain. 4)Drip Trail - A bloodstain pattern resulting from the movement of a source of drip stains between two points. 5)Expiration Pattern - A bloodstain pattern resulting from blood forced by airflow out of the nose, mouth, or a wound.
9M4LPW-5601	Item 4: The upper right edge of the pattern also exhibits swipe characteristics in a upward and right direction.
AJ6K7E-5601	Item 3 in my opinion can also be described as a splash pattern
BRUQDL-5605	For item 1- our laboratory no longer calculates angle of impact. For item 4- our laboratory does not issue single conclusions of wipe or swipe if the two cannot be distinguished, but instead reports them together. Not distinguishable from the image provided.
C2UPD7-5605	In regard to item 4: This pattern is on a semi-absorbent material (plywood) which makes fine detail harder to see. There were some areas that appeared darker and were consistent with saturation stains. There was also some possible feathering on the right side that could indicate motion. Motion would indicate a swipe/wipe pattern. Our technical procedures do not allow us to differentiate between a swipe or wipe pattern unless there is a clear alteration of an existing stain, which was not the case with this pattern. Overall, the majority of the pattern has a stamped appearance that is consistent with a transfer stain. Because of this, and the issue above of not being able to distinguish between a swipe or wipe, I chose transfer stain to describe the pattern.

TABLE 4

WebCode-Test	Additional Comments
C37FT3-5605	PowerPoint was used for Section 1 measurements for angle of impact. These measurements are in inches rather than mm.
CCV2YZ-5605	Angle measurements generated using software and are in cm, not mm.
CTL769-5601	How I would normally describe the patterns: Large volume stain associated with projected radiating spatter. Some of the projected stains are very fine and elongated. Other projected stains are much thicker and have a clotted appearance. Apparent air bubbles within staining, not clear whether this is a surface effect. Void to lower left side of pattern. In my opinion, has features of an impact pattern but unable to reliably determine whether this is as a result of an impact into wet blood or whether the blood hitting the floor is creating the impact or whether there is a combination of both. Series of heavy drips, one of which has been altered (wiped) since its deposition. In my opinion, the projected stains appear to have been deposited after the drips – may be two different sources? Additional Comments: I would like to see this pattern in the context of the rest of the scene in an attempt to distinguish whether this is an 'Impact' or 'Splash' pattern. I think seeing the extent of the projected stains would assist. This pattern is very difficult to interpret in isolation. It would also be useful to know what injuries the deceased individual had sustained. In addition DNA testing may also be useful.
D9P6NV-5601	The angle of impact determination section was not completed as per Serology QA Manual, Rev 6/19, Section 9.C.2.
DK36KP-5601	Item 2 depicted a large number of spatter stains, some of which exhibited directionality, distributed fairly even throughout the pattern, and longer vertical flow stains. Bubble rings and longer, thinner stains (mucous strands) were present throughout the pattern. Overall, the majority of the stains appeared diluted. Observable characteristics of the blood pictured in Item 2 indicated the pattern was an expiration pattern. Item 3 depicted a roughly rectangular shaped central stain surrounded by smaller spatter stains that exhibited directionality radiating out from the parent stain. In general, the smaller spatter was a greater distance from the parent stain and the larger spatter was fairly dense. Observable characteristics of the blood pictured in Item 3 indicated the pattern was a drip pattern, however, it is also possible this pattern could be a splash pattern.Item 4 depicted a large, narrow vertical stain that varied in density and had irregular borders. Feathering was present on the right side of it indicating roughly horizontal movement from left to right. Observable characteristics of the blood pictured in Item 4 indicated the pattern was a swipe pattern.
DV4PMH-5601	Splash pattern had possible diluted blood.
FGUUGK-5605	Item 4 initially proved challenging due to my focus on the single pattern recognition statement, "indicate the SINGLE pattern type that best describes the image." In casework I would immediately call this pattern a smear and place the Bevel/Gardner definition in the report comments. This is due to inherent error associated with wipes and swipes and because only a portion of the stain suggests motion. Since the majority of the stain is definitely a transfer, this is what I first chose for my answer. Following peer review, I more closely analyzed the swipe definition in the CTS terminology list. It basically defines swipe as a transfer "with characteristics that indicate relative motion between the two surfaces." There is no requirement for movement to be present across the entirety of the transfer stain. My original notes indicate the presence of motion at the top of the pattern. With this in mind, swipe is a suitable description for this pattern.
FUJQFX-5601	The angle of impact determination section was not completed as per Serology QA manual, Rev 6/19, Section 9.C.2.
G2FRFN-5605	The Item 4 pattern was reported as a swipe due to the limitations of the reporting procedure for this test. Based on our technical procedure, this pattern would have been reported as a swipe or a wipe.

TABLE 4

WebCode-Test	Additional Comments
GT4NDV-5605	Section 1: Section 1 measurements taken using software, so they are not in millimeters. Item 5: I am calling the drip stains present on this item as "a linear distribution of drip stains (possibly part of a drip trail, C)" due to the lack of discernable directionality indicating a direction of travel. Due to the small size of the target (~ 1ft. x 1ft.) and lack of directionality, I would not call this a drip trail in practice.
LBPY7Y-5601	Item 4 - possible lateral movement associated with transfer stain.
LLPK4X-5605	1. I was unable to verify the download using the provided hash values. I asked the IT unit and they said that it was outside their capabilities. If the download needs to be verified that it is complete, there needs to be a way for it to be done by all test takers/agencies. This obviously is not the way. 2. Calculated angles are estimated measurements and this should be reflected in the answer sheet. 3. Pattern description Part 1 - the list of possible patterns includes parent patterns (e.g. transfer, projected) and sub patterns under those groups (e.g. swipe, wipe, arterial, cast-off, etc.). It is not always straightforward to select a single pattern when multiple may apply. 4. Item 4 pattern description - there is no single pattern description that is most appropriate to describe this pattern. The pattern is nondescript enough that arguments could be made that it is a transfer, swipe, or wipe pattern. This is further complicated by the surface (semi-porous and unknown whether it is treated or untreated plywood) and the fact that swipes and wipes are a subset of transfer patterns. It is then complicated even further by the fact that my lab tech procedures and the current literature (e.g. J Forensic Sci 2017 Jul;62(4):1037-1042) state that swipes and wipes cannot be distinguished from each other when there is an absence of an altered stain. In casework, I would describe the pattern as either a swipe or a wipe. That is not an option for this pattern and this test forces me not to follow my laboratory technical procedures by selecting only one answer. I feel like there should be an option for “other” with a short explanation (e.g. 1 – 2 sentences) rather than “pick only one.” Especially for situations where the CTS test requires an analyst not to adhere to laboratory procedures when answering the question. Bloodstain pattern interpretation is rarely as simple as choose the best answer. Forcing an analyst to ignore the requirement of their technical procedures and the best practices in the field defeats the purpose of a proficiency test that we are expected to complete as we would casework. 5. Item 3 is described as "...beneath the chest wound of a seated stabbing victim who has fallen forward on a table." Beneath is a synonym for underneath or under and this reads as if the pattern was underneath and covered by the victim's chest. Since the pattern is on the floor, it would have been clearer to write something like "...on the vinyl tile floor below the chest wound of a seated stabbing victim who has fallen forward on a table."
MQYBRP-5605	Please note that our laboratory does not carry out angle of impact determination so no data is included for Section I.
NLFJCF-5605	A view of more of the surrounding area would have helped determined more definitively if the primary pattern observed was an impact, projected, or splash pattern.
P2WMKW-5605	Item 4: possible movement associated with contact, swipe or wipe (smear). Item 5: upper left corner, -Impact pattern cannot excluded possible overlapping patterns (possibly splash), with associated satellite stains
Q993RW-5601	There were some dark irregularly shaped areas on item 5 which may have been blood but appeared more likely to be part of the tile.
R4A7HW-5605	There were clusters of discrete stains or marks (generally between 1-3mm across) distributed across the vinyl tile, with some areas showing greater numbers (i.e. they are prevalent at the lower left and upper right). Many of the stains/marks appear very dark (possibly black). Their perimeters are generally irregular and possibly altered or influenced by surface features such as small depressions. I am unable to determine if they (or at least some of them) are blood, some other other substance or if they form part of the background pattern of the tile. Testing of a number of these stains would be required to confirm this either way.

TABLE 4

WebCode-Test	Additional Comments
U2DCQ6-5601	Section 4.17, Bloodstain Pattern Analysis, of the Crime Scene Investigation manual does not include procedures for the determination of the angle of impact and this is not an analytical procedure that is performed during any bloodstain pattern analysis within the laboratory. Therefore, the laboratory will not participate in the portion of the test that calls for calculating the angle of impact.
UQCZ8W-5605	Bubble rings may also arise in other situations, and is not a definitive indication of an expirated pattern.
VZGFJM-5601	The primary stain (splashed) contains air bubbles. The lack of small spatter stains and a mucous bridge excludes the possibility of an expirated blood stain.
WFPNYG-5605	Section I measurements taken using software, so they are not in millimeters.
WMMJT9-5601	The angle of impact determination section was not completed as per Serology QA Manual, Rev 6/19, Section 9.C.2.
WNGA3U-5601	We havent completed the angles as it is not something we do at our lab
ZHKLXY-5605	This test is being submitted by [Name].
ZRPQQE-5601	For the description and pattern recognition in Item 5 - it would be helpful to have a brief description of any injuries the victim may have.
ZY4QVQ-5601	Impact pattern, Drip pattern and Wipe

-End of Report-
(Appendix may follow)

Collaborative Testing Services ~ Forensic Testing Program

Test No. 21-5601: Bloodstain Pattern Analysis

DATA MUST BE SUBMITTED BY **Aug. 23, 2021, 11:59 p.m.** TO BE INCLUDED IN THE REPORT

Participant Code: U1234A WebCode: YT97NQ

The Accreditation Release section can be accessed by using the "Continue to Final Submission" button above. This information can be entered at any time prior to submitting to CTS.

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

Patterns provided in the Pattern Description section of the test include a simulated scenario for each item.

As a courtesy, an image of the entire pattern target (Items 2-5, max size 24 inches by 24 inches) has been provided in a digital download supplemental on the CTS customer portal. You must claim a test on the portal to have access to the supplemental download found on the data entry form.

For the digital supplemental material, you are not limited to conducting only on-screen comparisons and may employ any other method you wish. However, because of differences in printing technology, CTS cannot guarantee the quality of images you print from the digital media.

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

To verify a complete and accurate download, the hash value for the downloaded .ZIP file is as follows:
21-5601.5_Supplemental Images.zip MD5 hash value: 417be82e299caded5dc2d58457d24e76
21-5601.5_Supplemental Images.zip SHA1 hash value: 6c7b8f20f4a9889c562e0dab13484326318a040e

Section I: ANGLE OF IMPACT DETERMINATION

Examine bloodstains A-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 posterboard targets at predetermined angles from the vertical.

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

Report your measurements in accordance with your laboratory's requirement for significant figures. Please note that answers will be rounded to two decimal places in the Summary Report.

Stain	Width (mm)	Length (mm)	Angle of Impact (degrees)
A			
B			
C			
D			
E			

PATTERN DESCRIPTION, PART 1

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

Single Pattern Recognition: For each of the following patterns, indicate the **single** pattern type that best describes the image. 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 painted drywall in the vertical plane. Pattern was found in a room containing a deceased victim with fatal injuries to the face and head.

- ○ Cast-off Pattern
- ○ Cessation Pattern
- ○ Drip Pattern
- ○ Drip Stain
- ○ Expiration Pattern
- ○ Forward Spatter Pattern
- ○ Impact Pattern
- ○ Projected Pattern
- ○ Saturation Stain
- ○ Splash Pattern
- ○ Swipe
- ○ Transfer Stain
- ○ Wipe

Item 3: Target is a textured vinyl tile in the horizontal plane. Pattern was found beneath the chest wound of a seated stabbing victim who has fallen forward on a table.

- ○ Cast-off Pattern
- ○ Cessation Pattern
- ○ Drip Pattern
- ○ Drip Stain
- ○ Expiration Pattern
- ○ Forward Spatter Pattern
- ○ Impact Pattern
- ○ Projected Pattern
- ○ Saturation Stain
- ○ Splash Pattern
- ○ Swipe
- ○ Transfer Stain
- ○ Wipe

Item 4: Target is sheeted plywood in the vertical plane. Pattern was found in a tavern where a physical fight broke out between two individuals.

- ○ Cast-off Pattern
- ○ Cessation Pattern
- ○ Drip Pattern
- ○ Drip Stain
- ○ Expiration Pattern
- ○ Forward Spatter Pattern
- ○ Impact Pattern
- ○ Projected Pattern
- ○ Saturation Stain
- ○ Splash Pattern
- ○ Swipe
- ○ Transfer Stain
- ○ Wipe

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.

Please note: *Any additional formatting applied in the free form spaces below will not transfer to the Summary Report and may cause your information to be illegible. This includes additional spacing and returns that present your responses in lists and tabular formats.*

Item 5: Target is a smooth vinyl tile in the horizontal plane. Pattern was found in the home of a victim deceased under suspicious circumstances.

Additional Comments

Appendix: Suggested Terminology Glossary*

Accompanying Drop
A small blood drop produced as a by-product of drop formation.

Altered Stain
A bloodstain with characteristics that indicate a physical change has occurred.

Angle of Impact
The angle (alpha), relative to the plane of a target, at which a blood drop strikes the target.

Area of Convergence
The space in two dimensions to which the directionalities of spatter stains can be retraced to determine the location of the spatter producing event.

Area of Origin
The space in three dimensions to which the trajectories of spatter can be utilized to determine the location of the spatter producing event.

Backspatter Pattern
A bloodstain pattern resulting from blood drops which can be produced when a projectile creates an entrance wound.

Blood Clot
A gelatinous mass formed by a complex mechanism involving red blood cells, fibrinogen, platelets, and other clotting factors.

Bloodstain
A deposit of blood on a surface.

Bloodstain Pattern
A grouping or distribution of bloodstains that indicates through regular or repetitive form, order, or arrangement the manner in which the pattern was deposited.

Bubble Ring
An outline within a bloodstain resulting from air in the blood.

Cast-off Pattern
A bloodstain pattern resulting from blood drops released from an object due to its motion.

Cessation Pattern
A bloodstain pattern resulting from blood drops released from an object due to its abrupt deceleration.

Directional Angle
The angle (gamma) between the long axis of a spatter stain and a defined reference line on the target.

Directionality
The characteristic of a bloodstain that indicates the direction blood was moving at the time of deposition.

Drip Pattern
A bloodstain pattern resulting from a liquid that dripped into another liquid, at least one of which was blood.

Drip Stain
A bloodstain resulting from a falling drop that formed due to gravity.

Drip Trail
A bloodstain pattern resulting from the movement of a source of drip stains between two points.

Edge Characteristic
A physical feature of the periphery of a bloodstain.

Expiration Pattern
A bloodstain pattern resulting from blood forced by airflow out of the nose, mouth, or a wound.

Flow
A bloodstain resulting from the movement of a volume of blood on a surface due to gravity or movement of the target

Forward Spatter Pattern
A bloodstain pattern resulting from blood drops which can be produced when a projectile creates an exit wound.

Impact Pattern
A bloodstain pattern resulting from an object striking liquid blood.

Insect Stain
A bloodstain resulting from insect activity.

Parent Stain
A bloodstain from which a satellite stain(s) originated.

Perimeter Stain
An altered stain consisting of its edge characteristics, the central area having been partially or entirely removed.

Pool
A bloodstain resulting from an accumulation of liquid blood on a surface.

Projected Pattern
A bloodstain pattern resulting from the ejection of blood under hydraulic pressure, typically from a breach in the circulatory system.

Satellite Stain
A smaller bloodstain that originated during the formation of the parent stain as a result of blood impacting a surface.

Saturation Stain
A bloodstain resulting from the accumulation of liquid blood in an absorbent material.

Serum Stain
The stain resulting from the liquid portion of blood (serum) that separates during coagulation.

Spatter Stain
A bloodstain resulting from an airborne blood drop created when external force is applied to liquid blood.

Splash Pattern
A bloodstain pattern created from a large volume of liquid blood falling onto a surface.

Swipe
A bloodstain resulting from the transfer of blood from a blood-bearing surface onto another surface, with characteristics that indicate relative motion between the two surfaces.

Target
A surface onto which blood has been deposited.

Transfer Stain
A bloodstain resulting from contact between a blood-bearing surface and another surface.

Void
An absence of blood in an otherwise continuous bloodstain or bloodstain pattern.

Wipe
An altered stain resulting from an object moving through a preexisting wet bloodstain.

* As established by the AAFS Standards Board (ASB) - 2017

RELEASE OF DATA TO ACCREDITATION BODIES

The Accreditation Release is accessed by pressing the "Continue to Final Submission" button online and can be completed at any time prior to submission to CTS.

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 below must be completed.)
○ This participant's data is **not** intended for submission to ASCLD/LAB, ANAB, and/or A2LA.

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

ANAB Certificate No.
(Include ASCLD/LAB Certificate here)

A2LA Certificate No.

Step 2: Complete the Laboratory Identifying Information in its entirety

Authorized Contact Person and Title

Laboratory Name

Location (City/State)