Collaborative Testing Services, Inc.

Paper & Paperboard Testing Program

Summary Report #4381 - September 2025

Analysis	Analysis Name
3101	Thickness (Caliper), Printing papers
3111	Bursting Strength - Printing Papers
3113	Tearing Strength - Printing Papers
3115	Tensile Breaking Strength - Printing Papers
3116	Tensile Energy Absorption - Printing Papers
3117	Elongation to Break - Printing Papers
3121	Air Resistance - Gurley Oil Type
3123	Porosity - Sheffield Type - Sheffield Units for 3/4 inch Diameter Orifice
3131	Roughness - Print Surf Method - 2.5 to 6.0 Microns
3133	Roughness - Sheffield Type
3135	Grammage (Mass per Unit Area)
3141	Opacity (89% Reflectance Backing) - Fine Papers
3143	Opacity (Paper Backing) - Fine Papers and Newsprint
3145	Directional Brightness of Fluorescent Samples
3146	Fluorescent Component of Directional Brightness
3201	Bending Resistance, Taber Type - 0 to 10 Units
3203	Bending Resistance, Taber Type - 10 to 100 Taber Units
3205	Bending Resistance, Taber Type - 50 to 500 Taber Units - Recycled Paperboard
3207	Z-Direction Tensile, Recycled Paperboard
3209	Z-Direction Tensile
3211	Internal Bond Strength - Modified Scott Mechanics
3213	Internal Bond Strength - Scott Bond Models

The CTS Paper & Paperboard Interlaboratory Program

In 1969, the National Bureau of Standards (now designated the National Institute for Standards and Technology) and the Technical Association of the Pulp and Paper Industry (TAPPI) developed an interlaboratory program for paper and paperboard testing. Since 1971, Collaborative Testing Services has operated the Collaborative Reference Program for Paper and Paperboard. With hundreds of organizations from around the world participating in these tests, this program has become one of the largest of its kind. The program allows laboratories to compare the performance of their testing with that of other participating laboratories, and provides a realistic picture of the state of paper testing.

About CTS

Founded in 1971, Collaborative Testing Services, Inc. (CTS) is a privately - owned company that specializes in interlaboratory tests for a variety of industries including color, rubber, plastics, fasteners and metals, containerboard, paper, agriculture, hemp, and wine, as well as proficiency tests for forensic laboratories. All of the tests are designed to assist organizations in achieving and maintaining quality assurance objectives. Labs from the U.S., as well as more than 100 countries, currently participate in the CTS programs.

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Key for Web Summary Reports (Page 1 of 2)

WebCode — Assigned laboratory identification number (temporary) used to ensure lab confidentiality while permitting a lab to locate its data in the Paper Report published on the CTS Website. The WebCode for each analysis can be found on the datasheets and in the Performance Analysis Report mailed to each participant.

Lab Mean — The average of the values obtained for each sample by the participant.

Grand Mean — The average of the LAB MEANS for all included participants. Laboratories flagged with an X or an M (see DATA FLAG column) are excluded from the GRAND MEAN.

Difference from Grand Mean — The difference of the LAB MEAN from the GRAND MEAN.

Between-Lab Standard Deviation — An indication of the precision of measurement between the laboratories. The greater the spread of the LAB MEANS about the GRAND MEAN, the larger the BETWEEN-LAB STANDARD DEVIATION (and vice versa).

Comparative Performance Value — An indication of how well a laboratory's results agree with the other participants. The CPV is a ratio indicating the number of standard deviations from the GRAND MEAN. The closer a laboratory's COMPARATIVE PERFORMANCE VALUE is to zero, the more consistent its results are with the other participants' data (and vice versa). The critical value for each CPV will vary depending on the number of labs participating in a test.

Inst Code — A code indicating the manufacturer of the instrument used to perform the test (see separate INSTRUMENT CODE LIST for each test section), if instruments are tracked.

Data Flag — DATA FLAGS are assigned based on the simultaneous analysis of both samples tested. Refer to the following chart for an explanation of each symbol:

DATA FLAG	STATISTICALLY INCLUDED/EXCLUDED	ACTION REQUIRED
*	INCLUDED	CAUTION -review testing procedure and monitor future results. Results fall outside 95% ellipse but within a 99% ellipse that is calculated but not drawn.
X	EXCLUDED	STOP - immediate review of data and/or testing procedure is required. Results fall outside the 99% ellipse. See specific notes following each table for more information on why the data is excluded.
M	EXCLUDED	PROCEED - lab was unable to report data for at least one sample.

Graph - For each laboratory, the LAB MEAN for the first sample (x-axis) is plotted against the LAB MEAN for the second sample (y-axis) with each point representing a laboratory. The horizontal and vertical cross-hairs are the GRAND MEANS for each sample. When 20 or more laboratories are in the statistics, an ellipse is also drawn so that 95% of the time a randomly selected laboratory will be included inside the ellipse. Plotted data flags are explained on the previous page.

Common Problems Highlighted in Footnotes

1. ***Extreme data*** - The laboratory's results for one or both samples are so inconsistent with those of the other participants that the lab mean(s) fall outside the plot. The participant is advised to immediately review his data and/or testing procedure.

2. ***Systematic bias*** - The laboratory's results are either consistently high or low for both samples when compared to the other participants (the plotted point falls near the top or bottom of the ellipse). This indicates that the participant is performing the test with a constant bias. Causes of systematic errors include improper calibration, the particular make/model of equipment or a modification to the testing procedure.

3. ***Inconsistency in testing between samples/sample sets*** - The laboratory's results indicate that there are differences in the way the two samples tested (the plotted point falls to the side of the ellipse). This type of error may be attributed to the analyst deviating from the procedure when testing one of the samples or a material interaction occurrence with the instrument or room conditions. The inconsistency is reflected in the CPVs for the two samples, such as a +1.5 CPV for sample A and a -2.2 CPV for sample B. CTS also will specify if the laboratory's data for one sample are high/low compared to the other participants. If this inconsistency is slight, the lab's plotted point will be an * that falls on the edge of the ellipse.

4. ***Inconsistency in testing within a sample*** - The laboratory's within-lab standard deviation for a specified sample is high when compared to the other participants, often causing the lab's plotted point to fall outside of the ellipse.

Labs flagged with an * are not typically included in the footnotes of a data table. These labs may locate their position in the control ellipse and use the definitions above to help identify the type of testing error. An * should serve as a caution flag, a "yellow light", to a lab. If this error is repeated in future rounds, a lab may need to stop and review its testing procedures. The initial data flag is not cause for alarm. Interlaboratory tests conducted at regular intervals permit a lab to recognize trends in testing.

Paper & Paperboard Interlaboratory Testing Program

Analysis 3101

Thickness (Caliper), Printing papers

TAPPI Official Test Method T411

WebCode	Data Flag	Sample CP45 Lab Mean	Sample CP45 Diff from Grand Mean	Sample CP45 CPV	Sample CP46 Lab Mean	Sample CP46 Diff from Grand Mean	Sample CP46 CPV
23ZNY3		3.899	-0.094	-1.22	3.834	-0.154	-1.92
2F9AJG		4.019	0.026	0.33	3.997	0.009	0.11
2K44GH		4.009	0.016	0.20	4.026	0.038	0.48
2XPBG4		3.949	-0.044	-0.57	3.919	-0.069	-0.86
44T2WF		4.016	0.022	0.29	4.018	0.030	0.37
4PM7DD		3.989	-0.004	-0.06	3.970	-0.018	-0.22
8MQQGY		3.873	-0.120	-1.56	3.871	-0.117	-1.46
97XF6F		3.950	-0.043	-0.56	3.960	-0.028	-0.35
9BU6N9		3.968	-0.025	-0.33	3.984	-0.004	-0.05
ACZR2D	*	4.227	0.233	3.02	4.238	0.250	3.11
ADEDBE		3.903	-0.090	-1.17	3.926	-0.062	-0.77
BJHFB9		3.995	0.002	0.02	3.953	-0.035	-0.44
BTJ337		4.050	0.057	0.73	4.010	0.022	0.28
CXDJT6	*	3.875	-0.118	-1.53	3.797	-0.191	-2.38
E67BD4		3.948	-0.045	-0.59	3.990	0.002	0.02
E73LBR		3.999	0.006	0.07	3.999	0.011	0.14
EEV2XB		3.963	-0.030	-0.39	3.989	0.001	0.01
JMNZEX		4.022	0.029	0.37	4.038	0.050	0.62
JZFRY2		4.043	0.050	0.64	4.056	0.068	0.85
L4LZFW		3.994	0.000	0.00	4.019	0.031	0.38
LVVGY3		4.094	0.101	1.31	4.020	0.032	0.39
NBW64Y		4.021	0.028	0.36	4.012	0.024	0.30
PJ9GWQ	*	3.846	-0.147	-1.90	3.902	-0.086	-1.08
R2YAWE		3.943	-0.050	-0.65	3.931	-0.057	-0.71
RDUMUQ	X	4.034	0.041	0.53	3.895	-0.093	-1.16
TP6HMU		3.848	-0.145	-1.88	3.866	-0.122	-1.52
V6RE2U		3.970	-0.023	-0.30	3.979	-0.009	-0.11
VC7HNM		4.019	0.026	0.33	4.041	0.053	0.66
VFNKVT		4.004	0.011	0.14	3.997	0.009	0.11
VRHYT4		4.032	0.039	0.50	4.038	0.050	0.62
VULRPN		3.961	-0.032	-0.42	3.934	-0.054	-0.67
VX9CUR		4.111	0.117	1.52	4.083	0.095	1.19
W2M7BP		4.009	0.015	0.20	4.009	0.021	0.26
WAWVQA		4.013	0.020	0.26	4.002	0.014	0.17
Y83NJG		4.054	0.061	0.78	4.028	0.040	0.50
YFWW2M	X	3.784	-0.209	-2.71	3.978	-0.010	-0.12
ZNK7NM		4.036	0.042	0.55	4.003	0.015	0.19
ZWEAU6		4.110	0.117	1.51	4.130	0.142	1.77

Summary Statistics	Sample CP45	Sample CP46
Grand Means	3.99 mils	3.99 mils
Stnd Dev Btwn Labs	0.08 mils	0.08 mils

Statistics based on 36 of 38 reporting participants.

Comments on Assigned Data Flags for Test #3101

RDUMUQ (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample CP45.

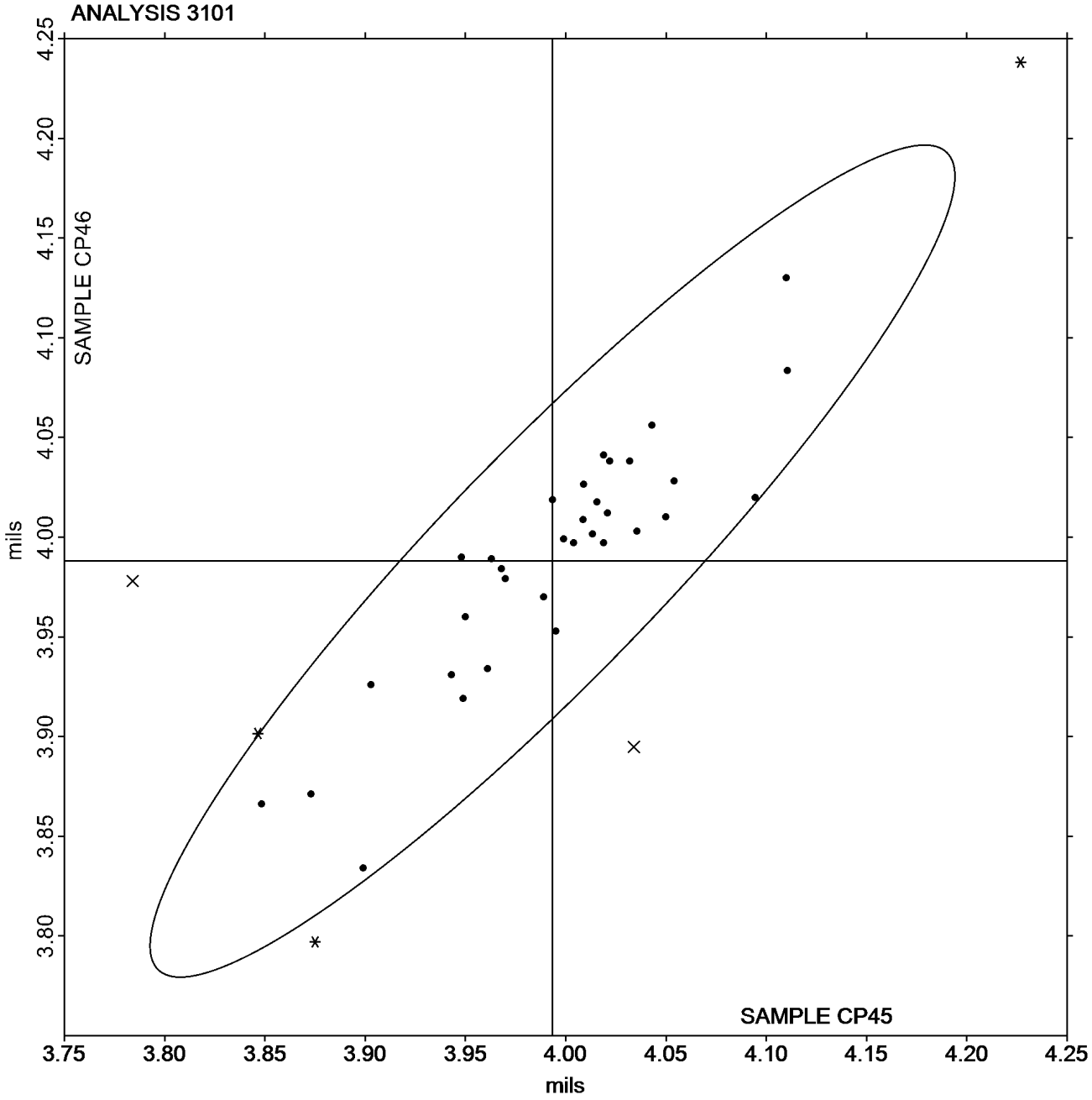
YFWW2M (X) - Data for sample CP45 are low.

Analysis Notes:

ZNK7NM - One determination removed from the Lab Mean of Sample CP45 per Grubb's Test at 1% risk (TAPPI 1205).

Grand Mean Sample CP45 = 3.9934 mils

Grand Mean Sample CP46 = 3.9880 mils



Paper & Paperboard Interlaboratory Testing Program

Analysis 3111

Bursting Strength - Printing Papers

TAPPI Official Test Method T403

WebCode	Data Flag	Sample BP45 Lab Mean	Sample BP45 Diff from Grand Mean	Sample BP45 CPV	Sample BP46 Lab Mean	Sample BP46 Diff from Grand Mean	Sample BP46 CPV
2F9AJG		21.85	-0.85	-0.57	21.05	-1.44	-1.03
2K44GH		21.39	-1.31	-0.88	21.20	-1.28	-0.92
3UPMD3		23.15	0.45	0.30	22.17	-0.32	-0.23
4PM7DD		24.16	1.46	0.98	24.96	2.47	1.77
67BFZF		23.80	1.10	0.74	22.70	0.21	0.15
8EFA8D		22.56	-0.14	-0.10	23.34	0.85	0.60
9BU6N9		23.80	1.10	0.74	22.30	-0.19	-0.14
ACZR2D		21.77	-0.93	-0.63	22.80	0.31	0.22
ADEDBE	X	29.40	6.70	4.51	30.30	7.81	5.58
B2E3FD		23.40	0.69	0.47	23.24	0.75	0.54
BTJ337		21.48	-1.22	-0.82	22.37	-0.12	-0.09
E73LBR		23.33	0.63	0.42	22.73	0.24	0.17
JMNZEX		20.60	-2.10	-1.42	21.90	-0.59	-0.42
RDUMUQ		23.08	0.37	0.25	21.58	-0.91	-0.65
TMW3FN	X	3.97	-18.73	-12.62	3.96	-18.53	-13.25
VFNKVT		22.14	-0.57	-0.38	21.51	-0.98	-0.70
VRHYT4		25.69	2.99	2.01	25.63	3.14	2.25
VX9CUR		22.71	0.01	0.01	22.35	-0.14	-0.10
WAWVQA		22.74	0.04	0.02	22.82	0.33	0.24
WJLJJQ		23.50	0.80	0.54	23.44	0.95	0.68
Y83NJG		21.41	-1.29	-0.87	20.75	-1.74	-1.24
YB7J47		24.22	1.52	1.02	23.18	0.69	0.49
ZFVHTK		18.73	-3.98	-2.68	19.08	-3.41	-2.44
ZWEAU6		23.97	1.27	0.85	23.68	1.19	0.85

Summary Statistics	Sample BP45	Sample BP46
Grand Means	22.70 psi	22.49 psi
Stnd Dev Btwn Labs	1.48 psi	1.40 psi

Statistics based on 22 of 24 reporting participants.

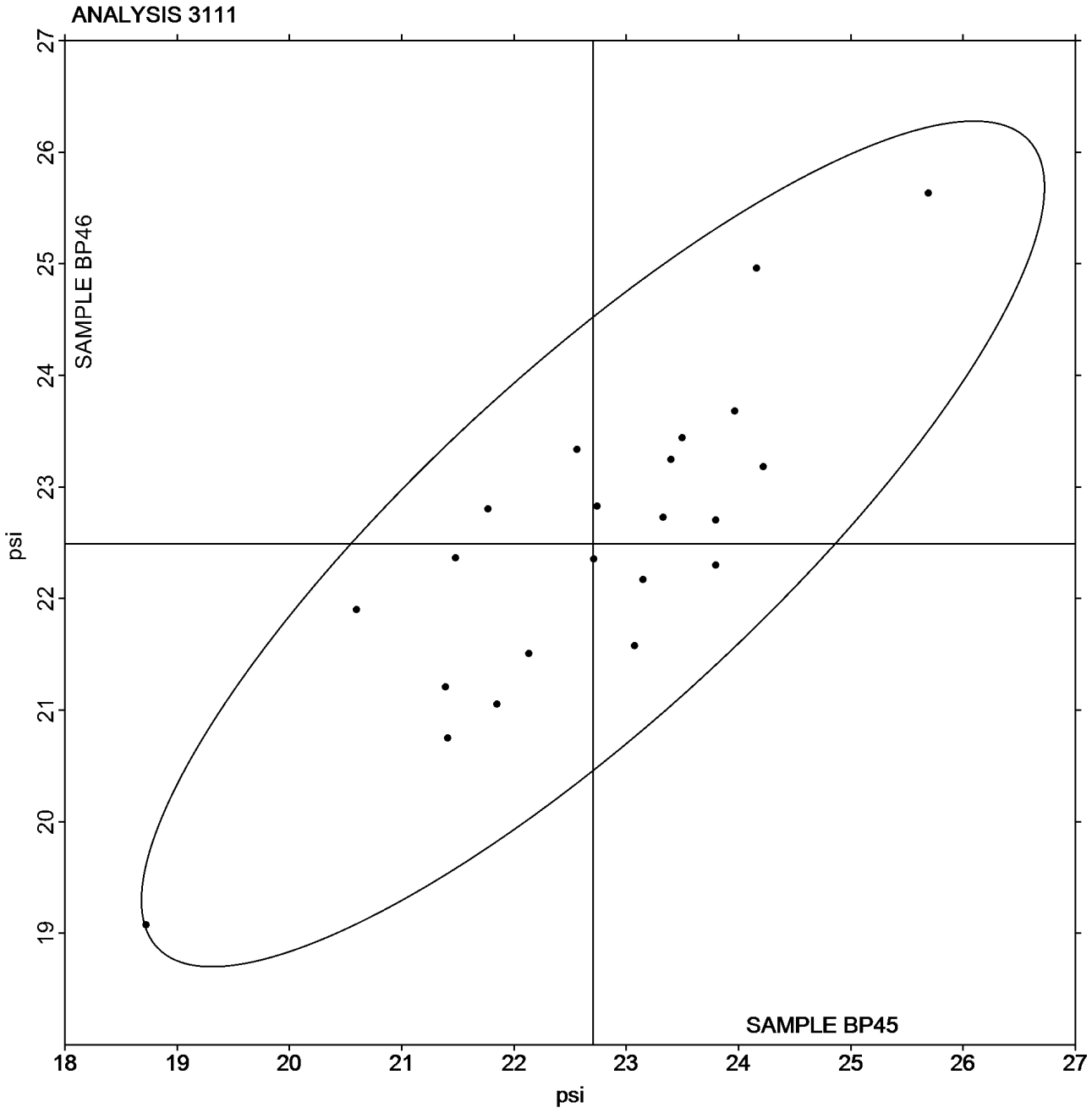
Comments on Assigned Data Flags for Test #3111

TMW3FN (X) - Extreme Data.

ADEDBE (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of both samples.

Grand Mean Sample BP45 = 22.703 psi

Grand Mean Sample BP46 = 22.489 psi



Paper & Paperboard Interlaboratory Testing Program

Analysis 3113

Tearing Strength - Printing Papers

TAPPI Official Test Method T414

WebCode	Data Flag	Sample RP45 Lab Mean	Sample RP45 Diff from Grand Mean	Sample RP45 CPV	Sample RP46 Lab Mean	Sample RP46 Diff from Grand Mean	Sample RP46 CPV
2F9AJG		69.70	9.76	1.83	72.90	12.25	1.94
2K44GH		58.62	-1.31	-0.25	59.62	-1.04	-0.16
49JC7D		52.61	-7.33	-1.37	52.77	-7.88	-1.25
4PM7DD		57.48	-2.46	-0.46	60.94	0.29	0.05
67BFZF		70.20	10.26	1.92	76.00	15.35	2.43
6YPKYB		63.40	3.46	0.65	63.60	2.95	0.47
8EFA8D		64.70	4.76	0.89	65.76	5.11	0.81
97XF6F		63.82	3.89	0.73	61.40	0.74	0.12
9BU6N9		60.04	0.10	0.02	62.77	2.12	0.33
ACZR2D		63.17	3.24	0.61	63.87	3.21	0.51
B2E3FD		69.44	9.50	1.78	68.98	8.33	1.32
BCYC47		63.57	3.63	0.68	63.54	2.89	0.46
BJHFB9		55.24	-4.70	-0.88	53.41	-7.24	-1.15
BTJ337		62.35	2.41	0.45	60.46	-0.19	-0.03
CXDJT6		47.20	-12.74	-2.38	48.64	-12.01	-1.90
E67BD4		58.11	-1.83	-0.34	54.06	-6.59	-1.04
E73LBR		54.35	-5.59	-1.05	57.81	-2.84	-0.45
EEV2XB		66.30	6.37	1.19	66.28	5.63	0.89
JMNZEX		62.52	2.58	0.48	61.63	0.98	0.15
JZFRY2		59.70	-0.24	-0.04	62.00	1.35	0.21
N4ME4G		53.14	-6.80	-1.27	52.40	-8.25	-1.31
NBW64Y		60.88	0.94	0.18	65.62	4.97	0.79
RDUMUQ		60.06	0.12	0.02	59.77	-0.88	-0.14
UKMEFP		52.46	-7.48	-1.40	51.77	-8.88	-1.41
UVM8MU		50.42	-9.52	-1.78	51.09	-9.56	-1.51
VC7HNM		58.56	-1.38	-0.26	58.36	-2.29	-0.36
VFNKVT	*	59.98	0.04	0.01	67.64	6.99	1.11
VRHYT4		57.94	-2.00	-0.37	55.89	-4.76	-0.75
VULRPN		55.78	-4.16	-0.78	54.80	-5.85	-0.93
VX9CUR		57.85	-2.09	-0.39	57.28	-3.38	-0.53
W2M7BP		63.56	3.63	0.68	64.49	3.83	0.61
WAWVQA		59.18	-0.76	-0.14	60.45	-0.20	-0.03
WY2L6L		60.90	0.96	0.18	62.22	1.57	0.25
Y83NJG		66.16	6.22	1.16	69.70	9.05	1.43
YTLT67		62.76	2.83	0.53	62.13	1.48	0.23
ZNK7NM		55.54	-4.40	-0.82	53.52	-7.13	-1.13
ZWEAU6	X	34.90	-25.04	-4.68	33.60	-27.05	-4.28

Summary Statistics	Sample RP45	Sample RP46
Grand Means	59.94 Grams	60.65 Grams
Stnd Dev Btwn Labs	5.34 Grams	6.32 Grams

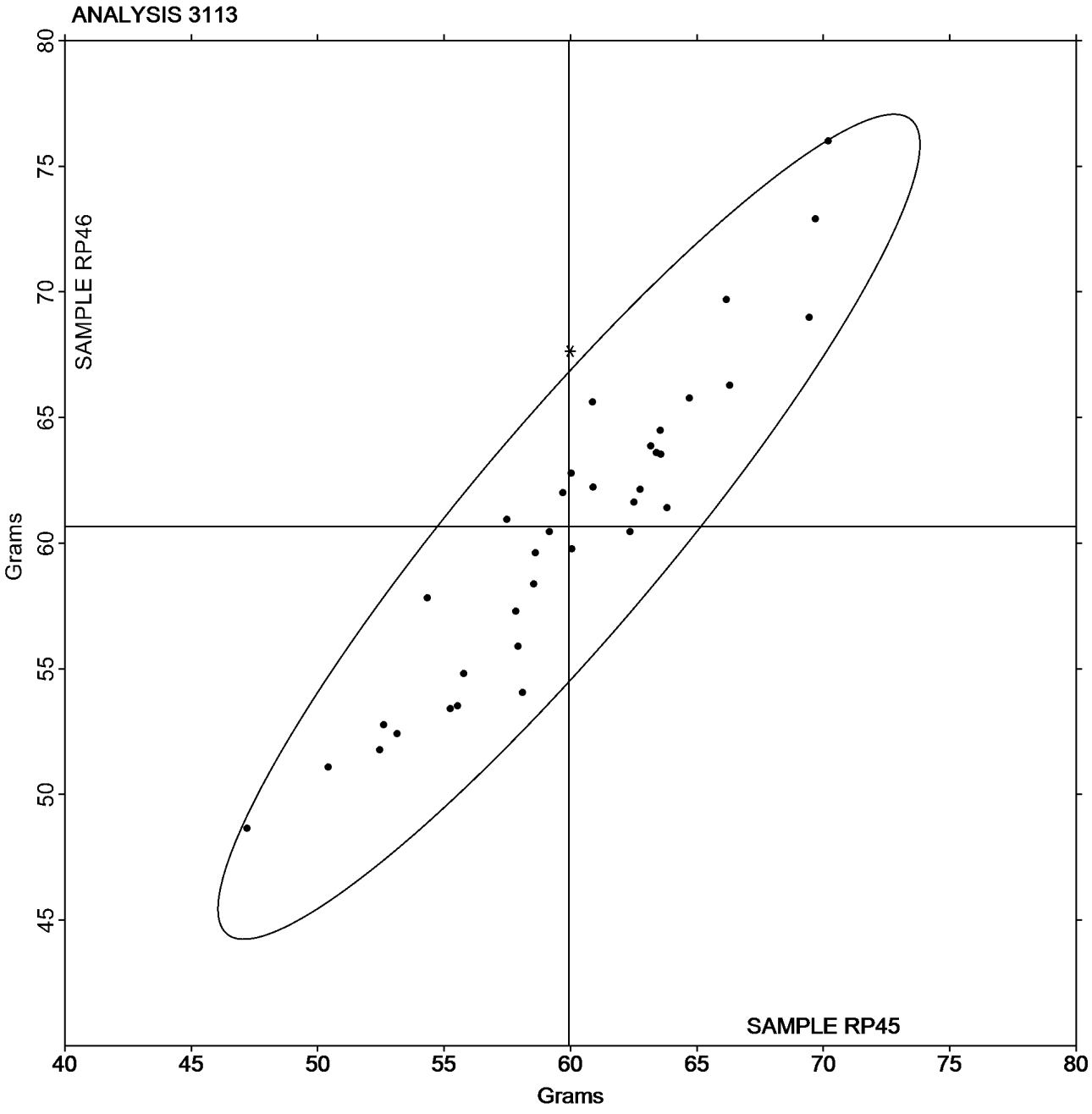
Statistics based on 36 of 37 reporting participants.

Comments on Assigned Data Flags for Test #3113

ZWEAU6 (X) - Data for both samples are low.

Grand Mean Sample RP45 = 59.936 Grams

Grand Mean Sample RP46 = 60.655 Grams



Paper & Paperboard Interlaboratory Testing Program

Analysis 3115

Tensile Breaking Strength - Printing Papers

TAPPI Official Test Method T494

		Sample NP45			Sample NP46		
WebCode	Data Flag	Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2F9AJG		3.368	-0.135	-0.53	3.324	-0.179	-0.72
2K44GH		3.589	0.085	0.34	3.493	-0.010	-0.04
49JC7D		3.886	0.383	1.51	3.697	0.194	0.77
4PM7DD	X	4.016	0.512	2.02	3.183	-0.320	-1.28
8EFA8D		3.183	-0.320	-1.27	3.306	-0.197	-0.79
96LLPF		3.519	0.015	0.06	3.640	0.137	0.55
97XF6F		3.620	0.117	0.46	3.680	0.177	0.71
9EB8VD		3.723	0.220	0.87	3.614	0.111	0.44
AAD8V9		3.596	0.093	0.37	3.578	0.075	0.30
ACZR2D		3.822	0.319	1.26	3.782	0.279	1.12
BCYC47		2.944	-0.559	-2.21	2.893	-0.610	-2.44
BJHFB9		3.678	0.174	0.69	3.486	-0.017	-0.07
BTJ337		3.325	-0.178	-0.70	3.330	-0.173	-0.69
CXDJT6		3.651	0.148	0.59	3.657	0.154	0.61
E67BD4		3.528	0.025	0.10	3.814	0.311	1.24
EEV2XB		3.971	0.468	1.85	3.909	0.406	1.62
JMNZEX		3.383	-0.120	-0.47	3.256	-0.248	-0.99
JZFRY2		3.541	0.038	0.15	3.636	0.132	0.53
LVVGY3		3.476	-0.028	-0.11	3.459	-0.044	-0.18
N4ME4G		3.400	-0.103	-0.41	3.490	-0.013	-0.05
NBW64Y		3.520	0.016	0.06	3.538	0.034	0.14
QYFXGX	*	3.034	-0.469	-1.85	3.351	-0.152	-0.61
RDUMUQ		3.285	-0.218	-0.86	3.325	-0.178	-0.71
UCD6QB		3.524	0.021	0.08	3.641	0.138	0.55
UKMEFP		3.916	0.413	1.63	4.034	0.531	2.12
V6RE2U		3.847	0.344	1.36	3.879	0.376	1.50
VC7HNM		3.682	0.179	0.71	3.513	0.010	0.04
VFNKVT		3.357	-0.146	-0.58	3.440	-0.063	-0.25
VRHYT4		3.450	-0.053	-0.21	3.505	0.002	0.01
VULRPN		3.381	-0.123	-0.48	3.292	-0.211	-0.85
VX9CUR		3.220	-0.283	-1.12	3.254	-0.249	-1.00
WAWVQA		3.477	-0.026	-0.10	3.418	-0.085	-0.34
XGWEQJ		3.604	0.101	0.40	3.347	-0.156	-0.63
Y83NJG		3.278	-0.225	-0.89	3.223	-0.281	-1.12
YPLHA7		3.524	0.021	0.08	3.646	0.143	0.57
YTLT67		2.902	-0.601	-2.38	2.937	-0.566	-2.26
ZNK7NM	*	3.719	0.216	0.85	3.349	-0.154	-0.62
ZWEAU6		3.698	0.195	0.77	3.882	0.379	1.51

Summary Statistics	Sample NP45	Sample NP46
Grand Means	3.50 kN/m	3.50 kN/m
Stnd Dev Btwn Labs	0.25 kN/m	0.25 kN/m

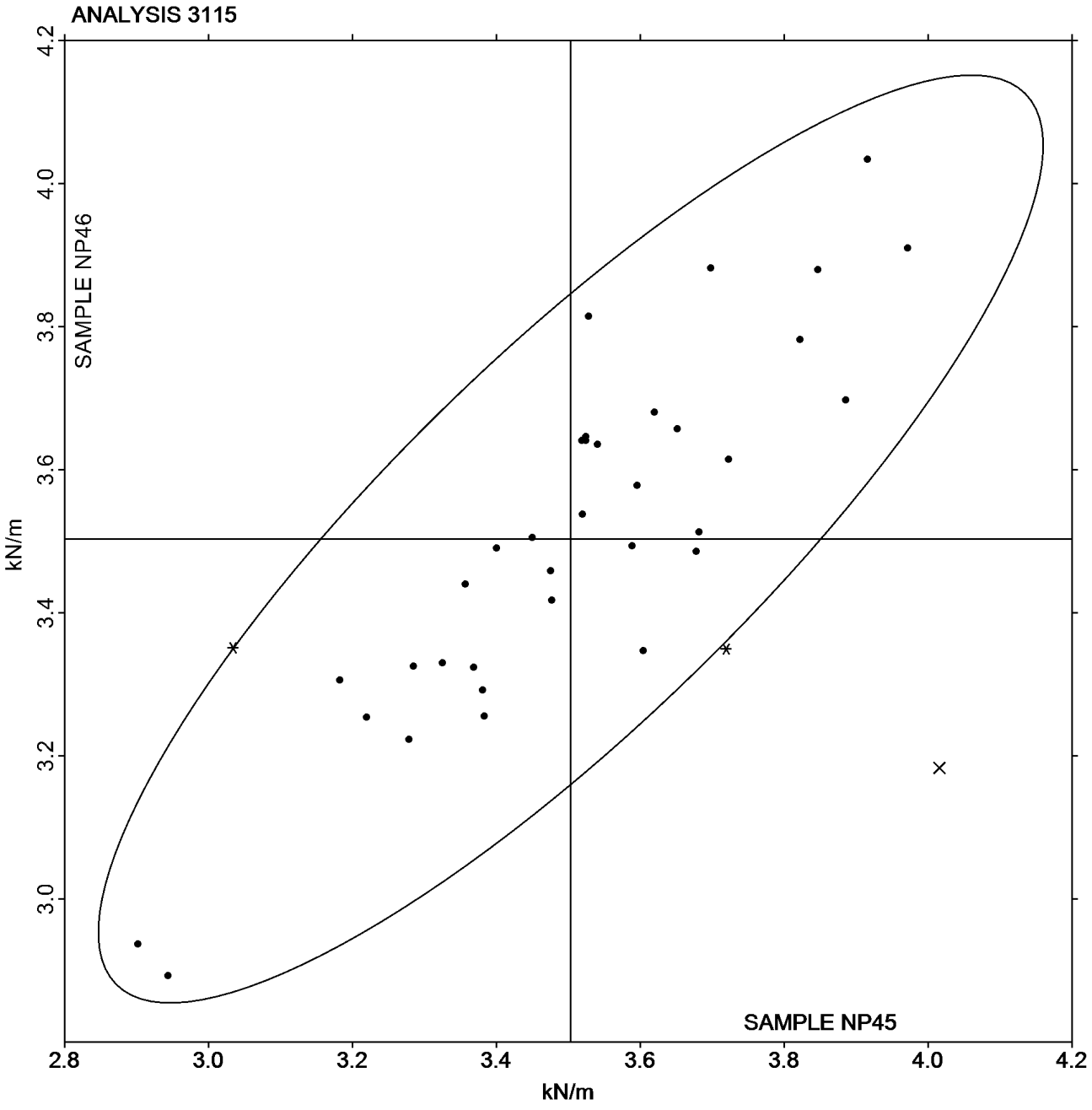
Statistics based on 37 of 38 reporting participants.

Comments on Assigned Data Flags for Test #3115

4PM7DD (X) - Inconsistent in testing between samples.

Grand Mean Sample NP45 = 3.5033 kN/m

Grand Mean Sample NP46 = 3.5031 kN/m



Paper & Paperboard Interlaboratory Testing Program

Analysis 3116

Tensile Energy Absorption - Printing Papers

TAPPI Official Test Method T494

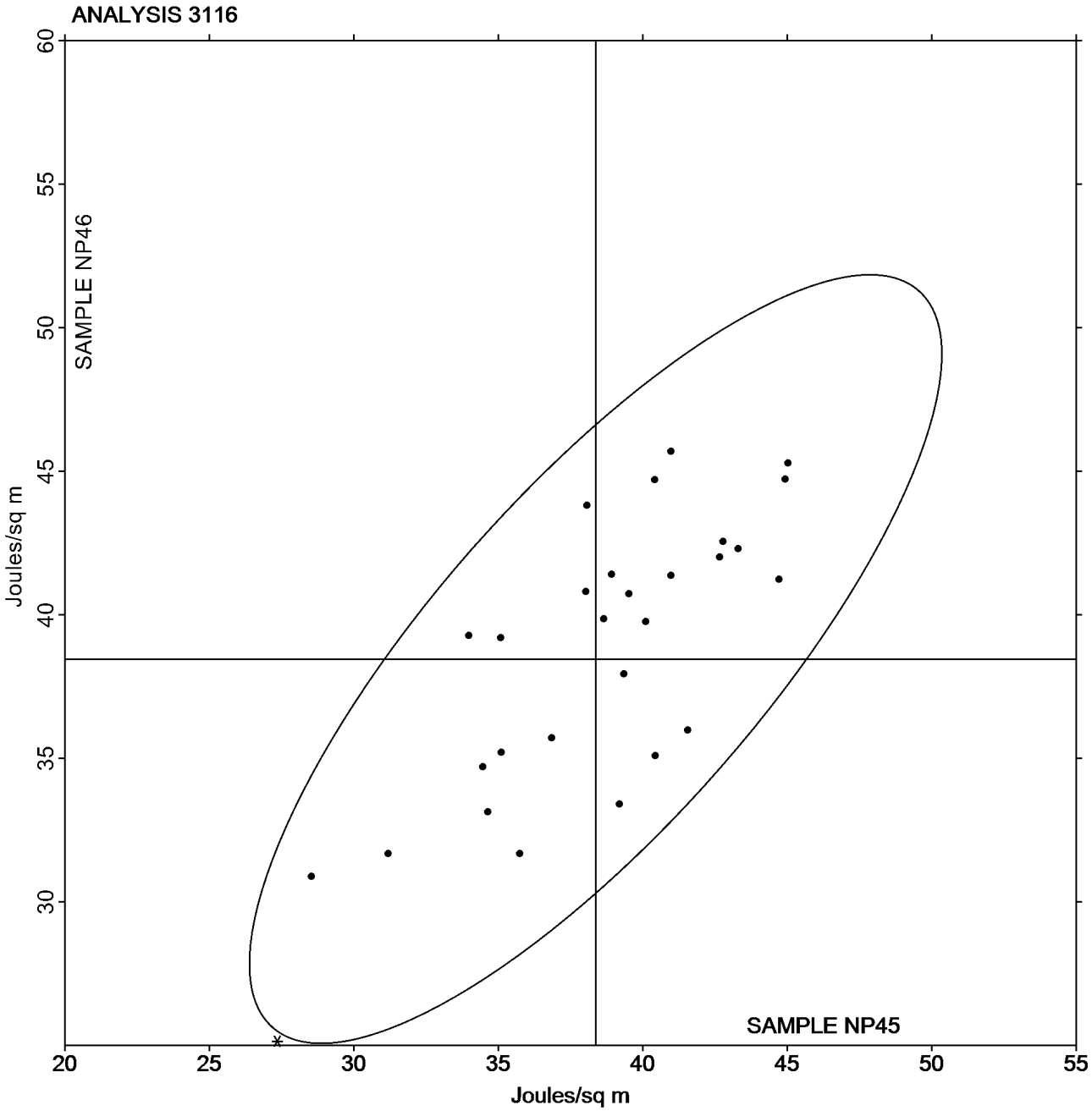
WebCode	Data Flag	Sample NP45 Lab Mean	Sample NP45 Diff from Grand Mean	Sample NP45 CPV	Sample NP46 Lab Mean	Sample NP46 Diff from Grand Mean	Sample NP46 CPV
2F9AJG		40.44	2.08	0.46	35.09	-3.37	-0.66
2K44GH		43.31	4.94	1.09	42.31	3.85	0.76
49JC7D		34.65	-3.72	-0.82	33.13	-5.33	-1.05
8EFA8D		38.03	-0.34	-0.07	40.81	2.36	0.46
96LLPF		44.94	6.57	1.45	44.73	6.27	1.24
97XF6F		38.92	0.55	0.12	41.40	2.94	0.58
9EB8VD		38.65	0.28	0.06	39.85	1.39	0.27
AAD8V9		31.19	-7.18	-1.58	31.68	-6.77	-1.33
ACZR2D		45.02	6.65	1.46	45.28	6.82	1.34
BJHFB9		39.53	1.17	0.26	40.73	2.28	0.45
BTJ337		40.98	2.61	0.58	41.37	2.91	0.57
E67BD4		35.09	-3.28	-0.72	39.19	0.74	0.15
EEV2XB		44.72	6.35	1.40	41.23	2.77	0.55
JMNZEX		36.85	-1.52	-0.33	35.71	-2.74	-0.54
JZFRY2		38.08	-0.29	-0.06	43.81	5.35	1.06
LVVGY3		42.78	4.41	0.97	42.56	4.10	0.81
N4ME4G		39.35	0.98	0.22	37.94	-0.52	-0.10
NBW64Y		42.66	4.29	0.94	42.01	3.56	0.70
QYFXGX		33.98	-4.38	-0.97	39.28	0.82	0.16
RDUMUQ	*	27.35	-11.02	-2.43	25.15	-13.31	-2.62
UKMEFP		40.42	2.05	0.45	44.70	6.24	1.23
VC7HNM		39.20	0.84	0.18	33.40	-5.06	-1.00
VFNKVT		40.98	2.61	0.58	45.69	7.23	1.43
VRHYT4		35.10	-3.27	-0.72	35.20	-3.26	-0.64
VX9CUR		34.47	-3.90	-0.86	34.71	-3.75	-0.74
XGWEQJ		41.57	3.20	0.71	35.99	-2.47	-0.49
Y83NJG		40.10	1.74	0.38	39.75	1.30	0.26
YTLT67		35.76	-2.61	-0.58	31.67	-6.79	-1.34
ZWEAU6		28.54	-9.83	-2.16	30.88	-7.58	-1.49

Summary Statistics	Sample NP45	Sample NP46
Grand Means	38.37 Joules/sq m	38.46 Joules/sq m
Stnd Dev Btwn Labs	4.54 Joules/sq m	5.07 Joules/sq m

Statistics based on 29 of 29 reporting participants.

Grand Mean Sample NP45 = 38.367 Joules/sq m

Grand Mean Sample NP46 = 38.456 Joules/sq m



Paper & Paperboard Interlaboratory Testing Program

Analysis 3117

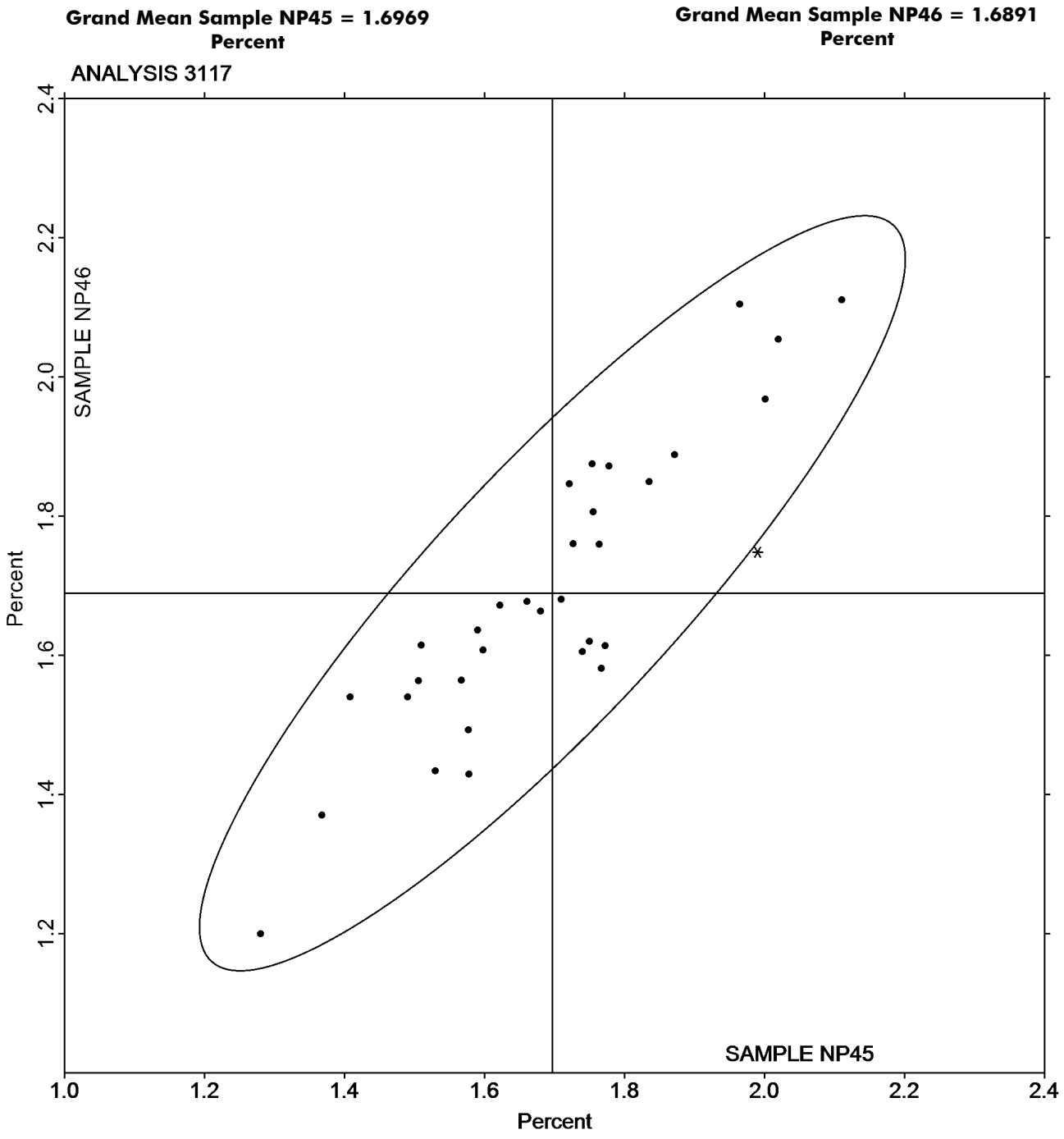
Elongation to Break - Printing Papers

TAPPI Official Test Method T494

WebCode	Data Flag	Sample NP45 Lab Mean	Sample NP45 Diff from Grand Mean	Sample NP45 CPV	Sample NP46 Lab Mean	Sample NP46 Diff from Grand Mean	Sample NP46 CPV
2F9AJG		1.767	0.070	0.36	1.581	-0.108	-0.52
2K44GH		1.764	0.067	0.35	1.759	0.070	0.34
49JC7D		1.368	-0.329	-1.70	1.370	-0.319	-1.54
8EFA8D		1.755	0.059	0.30	1.806	0.116	0.56
96LLPF		2.001	0.304	1.58	1.968	0.279	1.34
97XF6F		1.490	-0.207	-1.07	1.540	-0.149	-0.72
9EB8VD		1.408	-0.289	-1.50	1.540	-0.149	-0.72
AAD8V9		1.661	-0.036	-0.19	1.677	-0.012	-0.06
ACZR2D		1.727	0.030	0.16	1.760	0.071	0.34
BJHFB9		1.754	0.057	0.30	1.875	0.186	0.90
BTJ337		1.835	0.138	0.72	1.849	0.160	0.77
CXDJT6		1.280	-0.417	-2.16	1.200	-0.489	-2.36
E67BD4		1.506	-0.191	-0.99	1.563	-0.126	-0.61
EEV2XB		1.740	0.043	0.22	1.605	-0.084	-0.41
JMNZEX		1.598	-0.099	-0.51	1.607	-0.082	-0.40
JZFRY2		1.721	0.024	0.13	1.846	0.157	0.76
LVVGY3		1.772	0.075	0.39	1.613	-0.076	-0.37
N4ME4G		1.710	0.013	0.07	1.680	-0.009	-0.04
NBW64Y		1.680	-0.017	-0.09	1.663	-0.026	-0.13
QYFXGX		1.778	0.081	0.42	1.872	0.183	0.88
RDUMUQ		1.577	-0.120	-0.62	1.493	-0.196	-0.94
UKMEFP		1.510	-0.187	-0.97	1.614	-0.075	-0.36
VC7HNM		1.578	-0.119	-0.62	1.429	-0.260	-1.25
VFNKVT		1.965	0.268	1.39	2.104	0.415	2.00
VRHYT4		1.622	-0.075	-0.39	1.672	-0.017	-0.08
VULRPN		1.530	-0.167	-0.86	1.434	-0.255	-1.23
VX9CUR		1.567	-0.130	-0.67	1.564	-0.125	-0.60
WAWVQA		2.111	0.414	2.15	2.111	0.422	2.03
XGWEQJ		1.750	0.053	0.28	1.620	-0.069	-0.33
Y83NJG		1.872	0.175	0.91	1.888	0.199	0.96
YTLT67	*	1.990	0.293	1.52	1.748	0.059	0.28
ZNK7NM		1.590	-0.107	-0.55	1.636	-0.053	-0.26
ZWEAU6		2.020	0.323	1.67	2.054	0.365	1.76

Summary Statistics	Sample NP45	Sample NP46
Grand Means	1.70 Percent	1.69 Percent
Stnd Dev Btwn Labs	0.19 Percent	0.21 Percent

Statistics based on 33 of 33 reporting participants.



Paper & Paperboard Interlaboratory Testing Program

Analysis 3121

Air Resistance - Gurley Oil Type

TAPPI Official Test Method T460

WebCode	Data Flag	Sample PP45 Lab Mean	Sample PP45 Diff from Grand Mean	Sample PP45 CPV	Sample PP46 Lab Mean	Sample PP46 Diff from Grand Mean	Sample PP46 CPV
2F9AJG		35.83	0.76	0.42	17.75	0.97	1.14
3UPMD3		35.17	0.10	0.05	16.75	-0.03	-0.04
4KDTVE		30.82	-4.25	-2.34	15.76	-1.02	-1.20
4PM7DD		34.60	-0.47	-0.26	16.57	-0.21	-0.25
67BFZF		35.40	0.33	0.18	16.90	0.12	0.14
8EFA8D		34.97	-0.10	-0.06	17.25	0.47	0.55
96LLPF		33.85	-1.23	-0.67	16.09	-0.69	-0.82
9BU6N9		37.39	2.32	1.27	17.68	0.90	1.06
ACZR2D		34.23	-0.84	-0.46	16.84	0.06	0.07
B2E3FD		35.15	0.07	0.04	16.72	-0.06	-0.07
BPJR87		38.32	3.25	1.78	17.92	1.14	1.34
CXDJT6		36.08	1.01	0.55	17.09	0.30	0.36
E73LBR		33.52	-1.55	-0.85	17.05	0.26	0.31
EEV2XB		33.95	-1.12	-0.62	16.19	-0.60	-0.70
H36EG6		36.16	1.09	0.60	16.38	-0.40	-0.47
JZFRY2		34.78	-0.29	-0.16	17.14	0.35	0.42
N4ME4G		32.51	-2.56	-1.41	15.39	-1.39	-1.64
QEBKMP		32.34	-2.73	-1.50	15.21	-1.57	-1.85
R2YAWE		35.70	0.63	0.34	16.50	-0.28	-0.33
RDUMUQ	X	11.57	-23.50	-12.92	11.75	-5.03	-5.91
TM2JEM		35.13	0.06	0.03	15.83	-0.95	-1.12
TMW3FN		35.95	0.88	0.48	15.80	-0.98	-1.15
VFNKVT		36.15	1.08	0.59	17.04	0.26	0.31
VRHYT4		32.64	-2.44	-1.34	15.78	-1.00	-1.18
VULRPN		35.42	0.35	0.19	17.02	0.24	0.28
VX9CUR		33.84	-1.23	-0.68	16.21	-0.57	-0.67
XPQKJK		37.51	2.44	1.34	17.54	0.76	0.89
Y83NJG		35.21	0.14	0.08	17.69	0.91	1.07
YB7J47		35.49	0.42	0.23	16.56	-0.22	-0.26
YFWW2M		35.51	0.44	0.24	16.75	-0.03	-0.04
YTLT67	*	40.24	5.17	2.84	19.48	2.69	3.17
ZNK7NM		35.00	-0.07	-0.04	16.90	0.12	0.14
ZWEAU6		33.48	-1.59	-0.88	17.28	0.50	0.58

Summary Statistics	Sample PP45	Sample PP46
Grand Means	35.07 sec/100 cc	16.78 sec/100 cc
Stnd Dev Btwn Labs	1.82 sec/100 cc	0.85 sec/100 cc

Statistics based on 32 of 33 reporting participants.

Comments on Assigned Data Flags for Test #3121

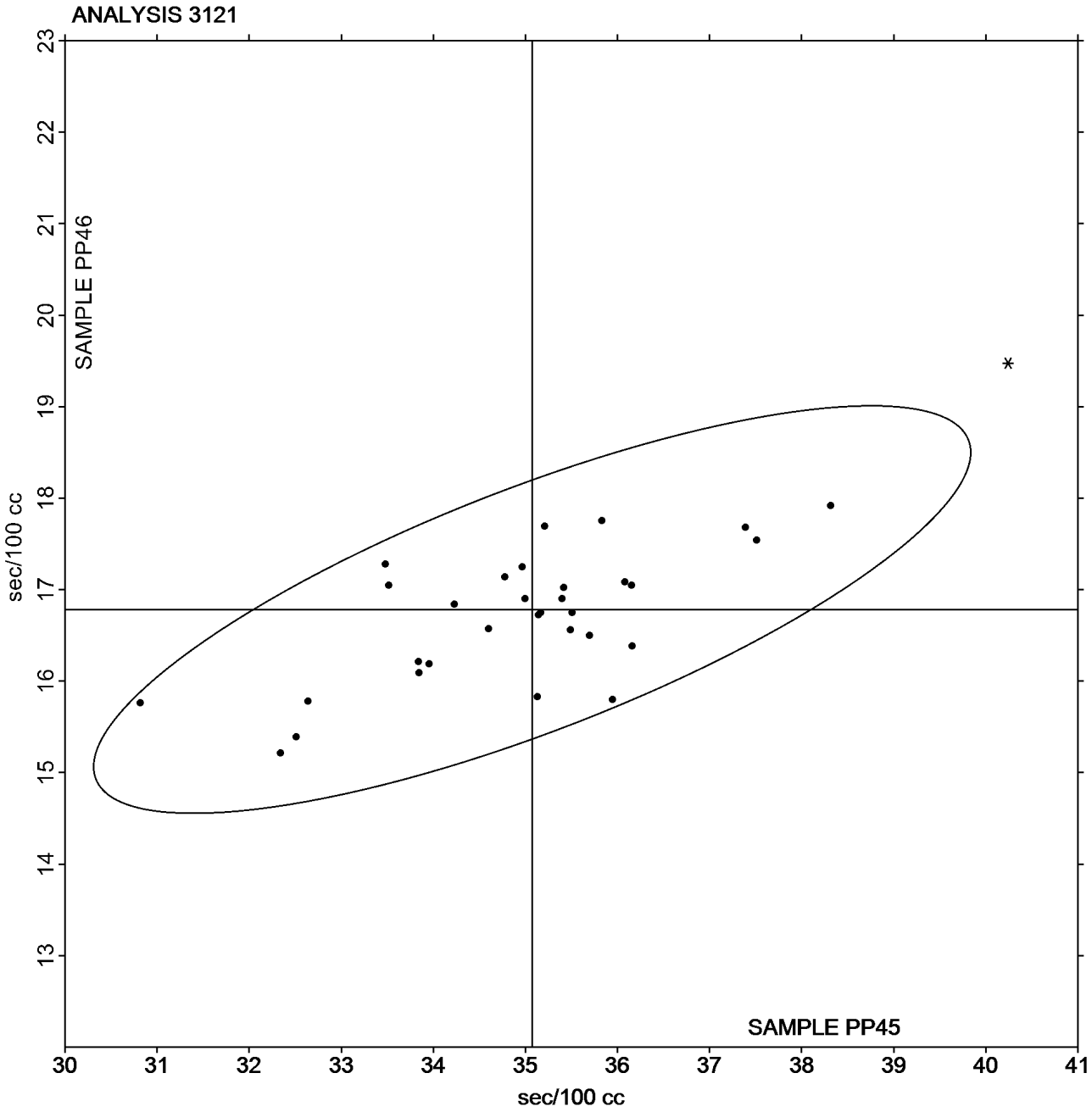
RDUMUQ (X) - Extreme Data.

Analysis Notes:

R2YAWE - Data appears to be transposed between samples. CTS will not correct going forward.

Grand Mean Sample PP45 = 35.073 sec/100 cc

Grand Mean Sample PP46 = 16.782 sec/100 cc



Paper & Paperboard Interlaboratory Testing Program

Analysis 3123

Porosity - Sheffield Type - Sheffield Units for 3/4 inch Diameter Orifice

TAPPI Official Test Method T547

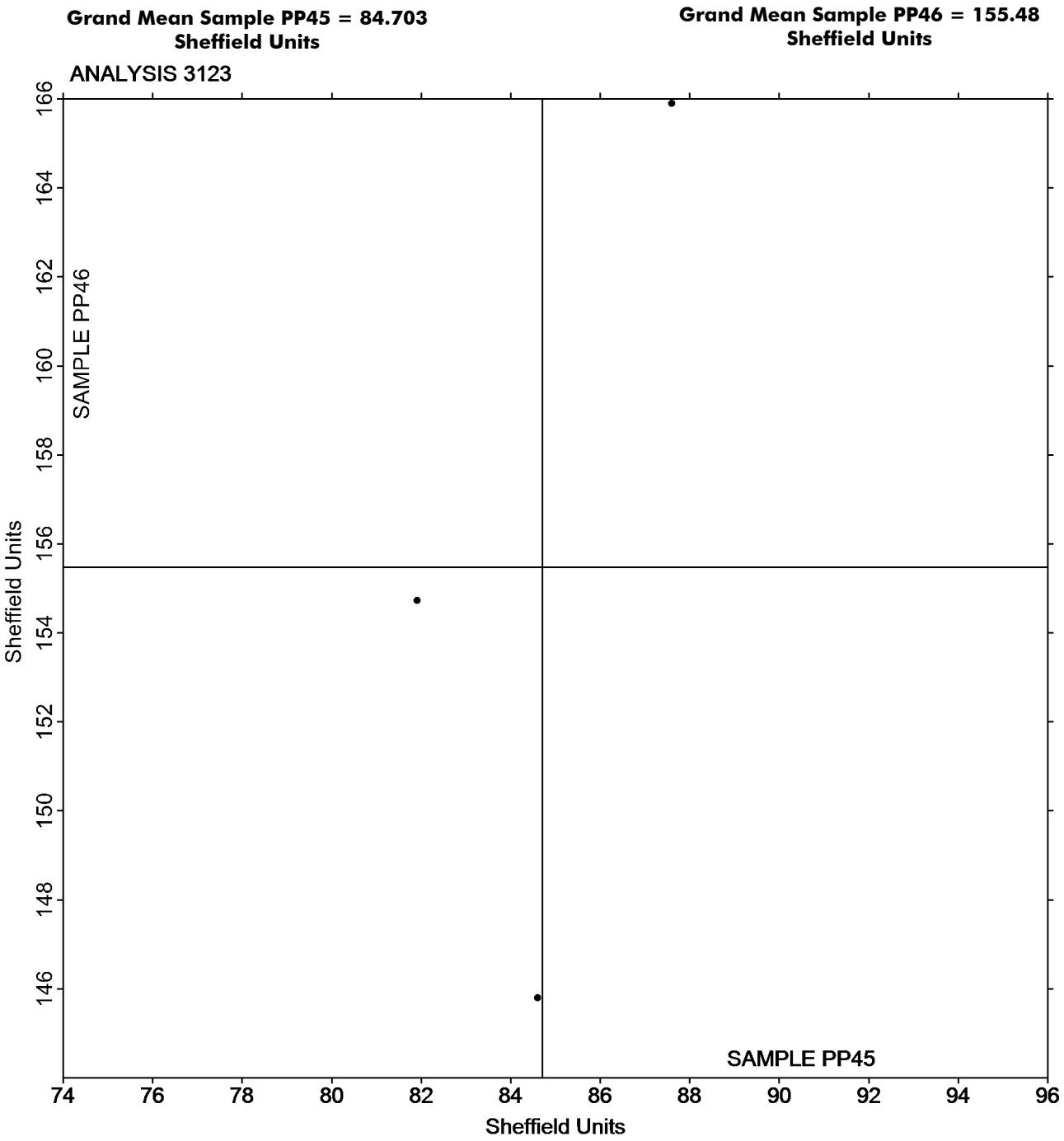
		Sample PP45			Sample PP46		
WebCode	Data Flag	Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
67BFZF		84.60	-0.10	-0.04	145.8	-9.7	-0.96
97XF6F	X	37.70	-47.00	-16.51	16.9	-138.6	-13.76
9BU6N9		81.91	-2.79	-0.98	154.7	-0.7	-0.07
E67BD4		87.60	2.90	1.02	165.9	10.4	1.04

Summary Statistics	Sample PP45	Sample PP46
Grand Means	84.70 Sheffield Units	155.48 Sheffield Units
Stnd Dev Btwn Labs	2.85 Sheffield Units	10.07 Sheffield Units

Statistics based on 3 of 4 reporting participants.

Comments on Assigned Data Flags for Test #3123

97XF6F (X) - Extreme Data.



If fewer than 20 laboratories are included in an analysis, a control ellipse will not be drawn on the two-sample plot.

Paper & Paperboard Interlaboratory Testing Program

Analysis 3131

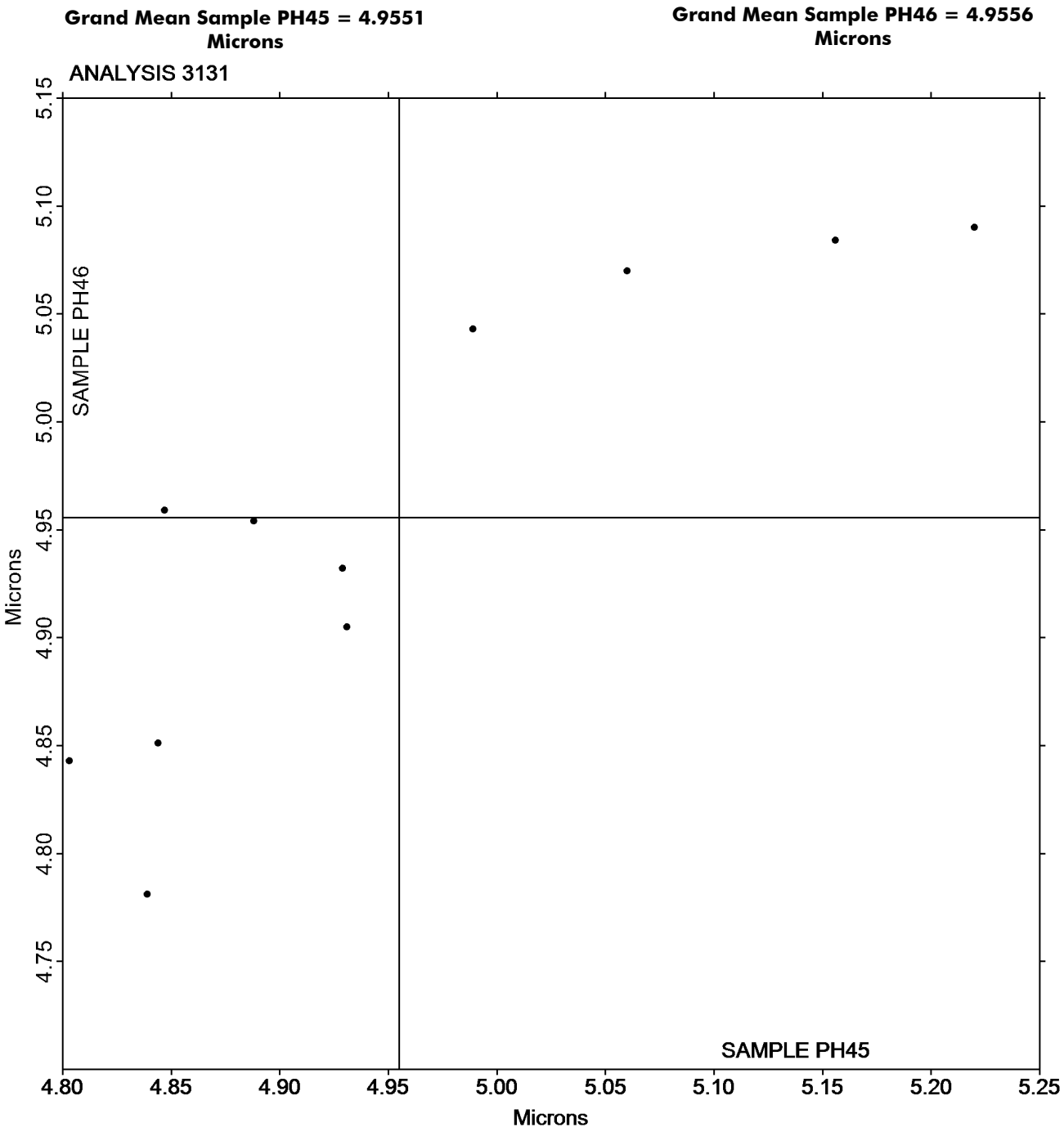
Roughness - Print Surf Method - 2.5 to 6.0 Microns

TAPPI Official Test Method T555

WebCode	Data Flag	Sample PH45 Lab Mean	Sample PH45 Diff from Grand Mean	Sample PH45 CPV	Sample PH46 Lab Mean	Sample PH46 Diff from Grand Mean	Sample PH46 CPV
23ZNY3		5.156	0.201	1.46	5.084	0.128	1.21
44T2WF		4.888	-0.067	-0.49	4.954	-0.002	-0.02
8EFA8D		4.803	-0.152	-1.11	4.843	-0.113	-1.06
B2E3FD		5.220	0.265	1.93	5.090	0.134	1.27
H9AFGY		4.931	-0.024	-0.18	4.905	-0.051	-0.48
JMNZEX		4.929	-0.026	-0.19	4.932	-0.024	-0.22
L4LZFW		4.839	-0.116	-0.84	4.781	-0.175	-1.65
PQPXPZ		5.060	0.105	0.76	5.070	0.114	1.08
TM2JEM		4.844	-0.111	-0.81	4.851	-0.105	-0.99
W2M7BP		4.847	-0.108	-0.79	4.959	0.003	0.03
Y83NJG		4.989	0.034	0.25	5.043	0.087	0.82

Summary Statistics	Sample PH45	Sample PH46
Grand Means	4.96 Microns	4.96 Microns
Stnd Dev Btwn Labs	0.14 Microns	0.11 Microns

Statistics based on 11 of 11 reporting participants.



If fewer than 20 laboratories are included in an analysis, a control ellipse will not be drawn on the two-sample plot.

Paper & Paperboard Interlaboratory Testing Program

Analysis 3133

Roughness - Sheffield Type

TAPPI Official Test Method T538

WebCode	Data Flag	Sample SR45 Lab Mean	Sample SR45 Diff from Grand Mean	Sample SR45 CPV	Sample SR46 Lab Mean	Sample SR46 Diff from Grand Mean	Sample SR46 CPV
2F9AJG		110.8	10.8	1.42	112.28	12.47	1.70
3UPMD3		98.4	-1.7	-0.22	97.40	-2.41	-0.33
44T2WF		97.9	-2.2	-0.29	98.30	-1.51	-0.21
4PM7DD		92.3	-7.8	-1.03	88.86	-10.95	-1.50
67BFZF	*	119.0	18.9	2.50	115.10	15.29	2.09
68LHLE		105.5	5.5	0.72	102.10	2.29	0.31
6YPKYB		108.3	8.2	1.09	106.20	6.39	0.87
7XE76B		104.8	4.7	0.63	102.80	2.99	0.41
8EFA8D		105.0	4.9	0.65	103.50	3.69	0.50
96LLPF	*	120.5	20.4	2.70	118.42	18.61	2.54
9BU6N9		92.8	-7.2	-0.95	94.99	-4.82	-0.66
AAD8V9	X	168.6	68.5	9.05	171.06	71.25	9.73
ACZR2D		92.0	-8.1	-1.06	92.30	-7.51	-1.03
B2E3FD		101.7	1.6	0.22	104.30	4.49	0.61
BJHFB9		104.5	4.5	0.59	104.06	4.24	0.58
BPJR87		90.5	-9.6	-1.26	93.30	-6.51	-0.89
CXDJT6		93.1	-6.9	-0.92	93.95	-5.87	-0.80
CXXZ98		106.5	6.4	0.85	105.52	5.71	0.78
E67BD4		100.6	0.5	0.07	97.00	-2.81	-0.38
E73LBR		86.2	-13.9	-1.83	86.58	-13.23	-1.81
EEVY97		89.6	-10.5	-1.38	88.60	-11.21	-1.53
EFLZC9		100.9	0.8	0.11	98.70	-1.11	-0.15
GZ2JZM		102.7	2.6	0.35	103.90	4.09	0.56
JMNZEX		98.0	-2.0	-0.27	99.77	-0.05	-0.01
JZFRY2		93.5	-6.6	-0.87	94.88	-4.94	-0.67
L4LZFW		96.5	-3.6	-0.47	97.80	-2.01	-0.27
LKXJC4		95.0	-5.1	-0.67	93.40	-6.41	-0.88
PQPXPZ		90.9	-9.1	-1.21	87.97	-11.84	-1.62
R2YAWE		104.0	3.9	0.52	104.50	4.69	0.64
RDUMUQ	X	164.3	64.3	8.49	167.04	67.23	9.19
TM2JEM		110.0	9.9	1.31	107.18	7.37	1.01
U83ZCP	X	4.4	-95.7	-12.64	4.02	-95.80	-13.09
V6RE2U		94.4	-5.7	-0.75	93.81	-6.00	-0.82
VFNKVT		95.5	-4.5	-0.60	96.98	-2.83	-0.39
VFT3UR		105.1	5.0	0.67	106.70	6.89	0.94
VRHYT4		105.3	5.2	0.69	106.80	6.99	0.95
VULRPN		102.5	2.4	0.32	100.10	0.29	0.04
XP8XMN	*	102.4	2.3	0.31	107.34	7.53	1.03
Y83NJG		98.3	-1.8	-0.23	98.34	-1.47	-0.20
YB7J47		92.7	-7.4	-0.97	93.80	-6.01	-0.82

Paper & Paperboard Interlaboratory Testing Program

Analysis 3133
Roughness - Sheffield Type
TAPPI Official Test Method T538

WebCode	Data Flag	Sample SR45 Lab Mean	Sample SR45 Diff from Grand Mean	Sample SR45 CPV	Sample SR46 Lab Mean	Sample SR46 Diff from Grand Mean	Sample SR46 CPV
YFWW2M		101.6	1.5	0.20	102.20	2.39	0.33
YTLT67		94.4	-5.6	-0.74	90.85	-8.96	-1.22
ZNK7NM		93.6	-6.5	-0.85	96.00	-3.81	-0.52
ZWEAU6		105.0	4.9	0.65	105.74	5.93	0.81

Summary Statistics	Sample SR45	Sample SR46
Grand Means	100.06 Sheffield	99.81 Sheffield
Stnd Dev Btwn Labs	7.57 Sheffield	7.32 Sheffield

Statistics based on 41 of 44 reporting participants.

Comments on Assigned Data Flags for Test #3133

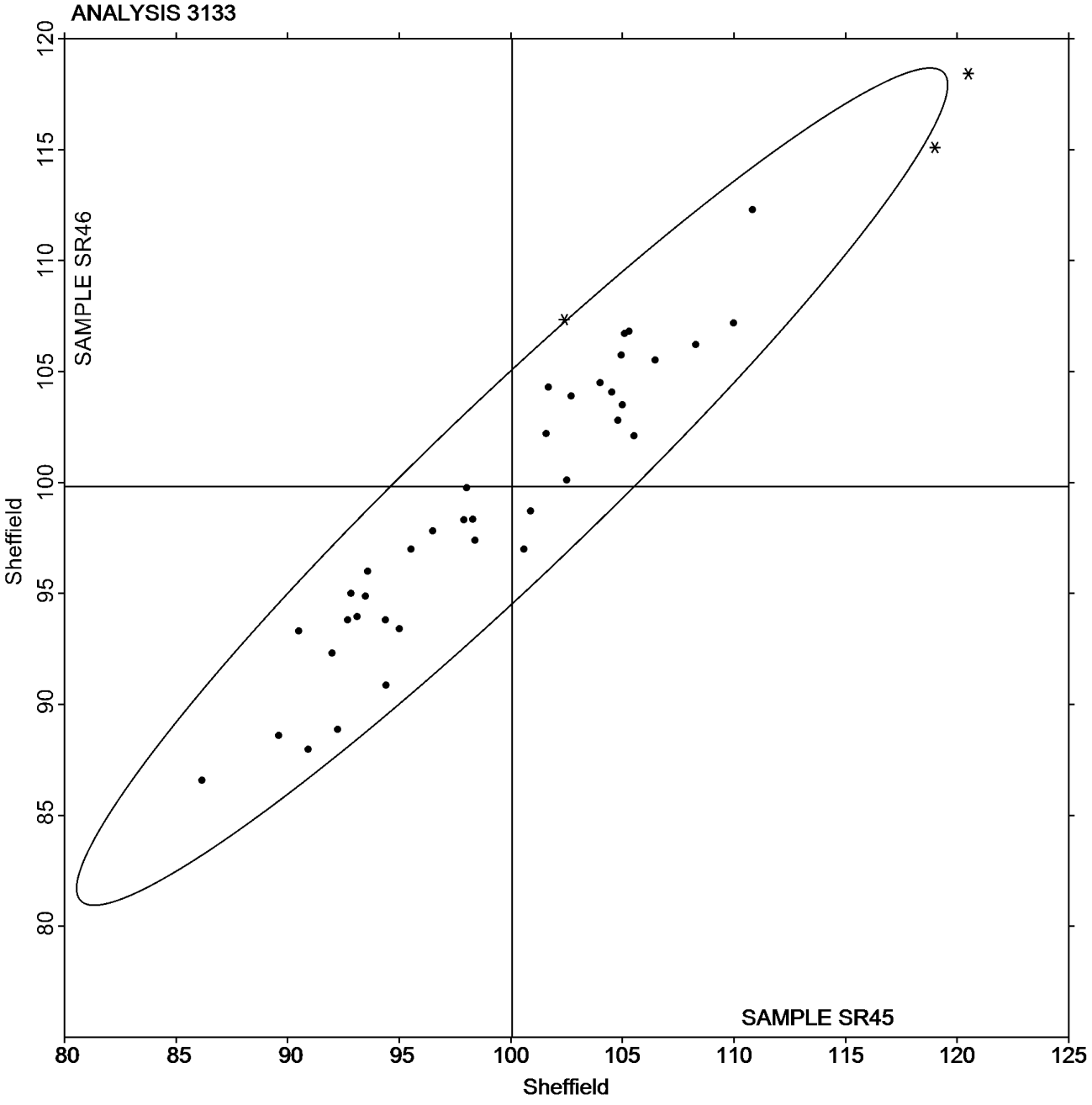
RDUMUQ (X) - Extreme Data.

AAD8V9 (X) - Extreme Data.

U83ZCP (X) - Extreme Data.

Grand Mean Sample SR45 = 100.06
Sheffield

Grand Mean Sample SR46 = 99.812
Sheffield



Paper & Paperboard Interlaboratory Testing Program

Analysis 3135

Grammage (Mass per Unit Area)

TAPPI Official Test Method T410

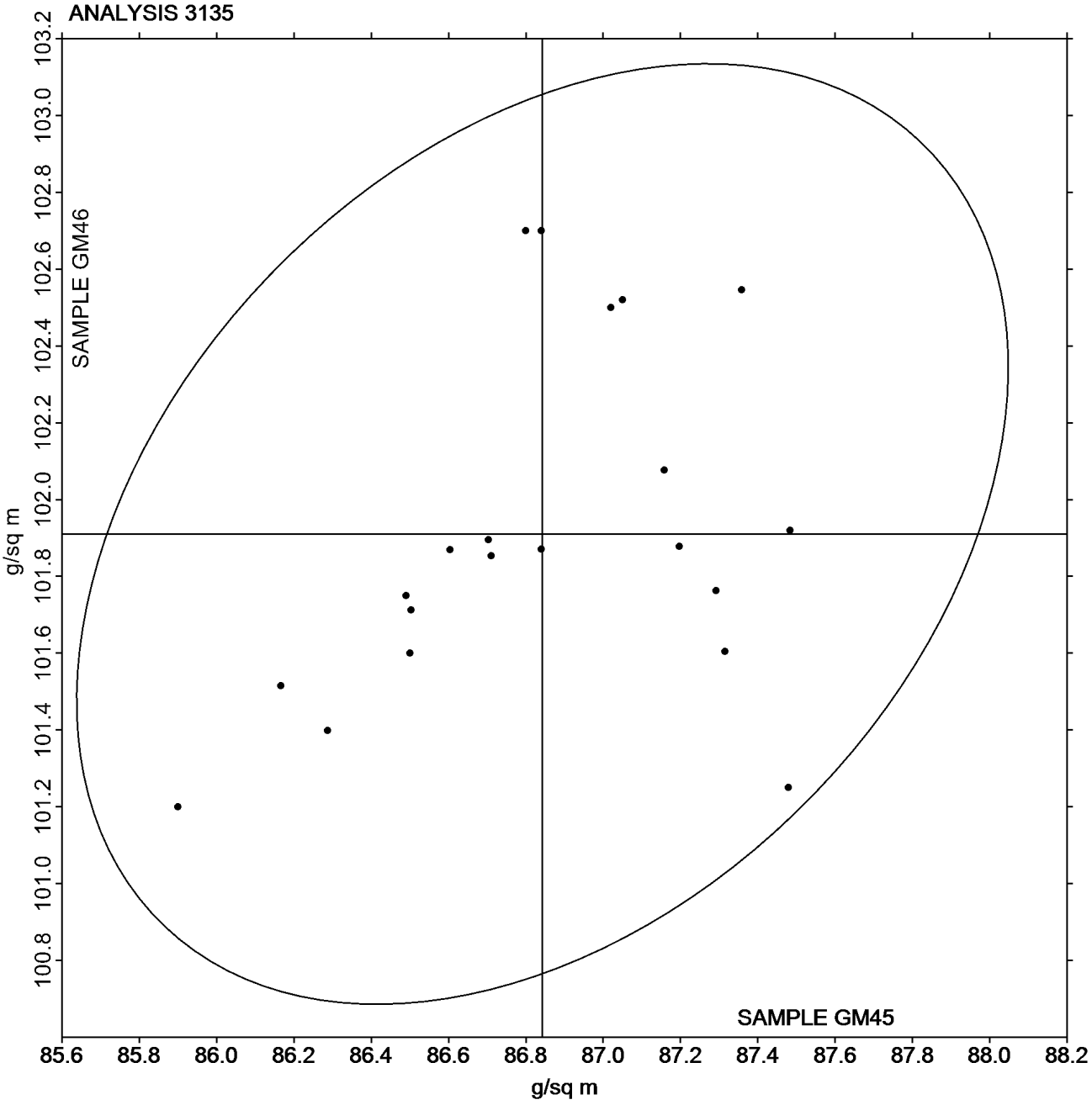
WebCode	Data Flag	Sample GM45 Lab Mean	Sample GM45 Diff from Grand Mean	Sample GM45 CPV	Sample GM46 Lab Mean	Sample GM46 Diff from Grand Mean	Sample GM46 CPV
2F9AJG		86.71	-0.13	-0.30	101.9	-0.1	-0.13
9BU6N9		86.84	0.00	-0.01	101.9	0.0	-0.09
ACZR2D		86.49	-0.35	-0.80	101.8	-0.2	-0.36
E67BD4		87.48	0.64	1.44	101.3	-0.7	-1.47
E73LBR		87.02	0.18	0.40	102.5	0.6	1.31
FBQT6K		87.36	0.52	1.16	102.5	0.6	1.41
FVCMV7		87.20	0.36	0.80	101.9	0.0	-0.07
LVVGY3		86.17	-0.68	-1.53	101.5	-0.4	-0.88
N4ME4G		86.50	-0.34	-0.77	101.6	-0.3	-0.69
PJ9GWQ		86.80	-0.04	-0.10	102.7	0.8	1.76
PYYJDU		87.29	0.45	1.01	101.8	-0.1	-0.33
QYFXGX		87.32	0.47	1.07	101.6	-0.3	-0.68
RP6VVW		86.60	-0.24	-0.54	101.9	0.0	-0.09
TANJHU		86.70	-0.14	-0.32	101.9	0.0	-0.03
TELZUN		87.05	0.21	0.47	102.5	0.6	1.36
VRHYT4		86.50	-0.34	-0.77	101.7	-0.2	-0.44
VULRPN		86.84	0.00	-0.01	102.7	0.8	1.76
W2M7BP		87.16	0.32	0.71	102.1	0.2	0.37
WAWVQA		87.48	0.64	1.45	101.9	0.0	0.02
XGWEQJ		86.29	-0.56	-1.26	101.4	-0.5	-1.14
ZNK7NM		85.90	-0.94	-2.13	101.2	-0.7	-1.58

Summary Statistics	Sample GM45	Sample GM46
Grand Means	86.84 g/sq m	101.91 g/sq m
Stnd Dev Btwn Labs	0.44 g/sq m	0.45 g/sq m

Statistics based on 21 of 21 reporting participants.

Grand Mean Sample GM45 = 86.843 g/sq m

Grand Mean Sample GM46 = 101.91 g/sq m



Paper & Paperboard Interlaboratory Testing Program

Analysis 3141

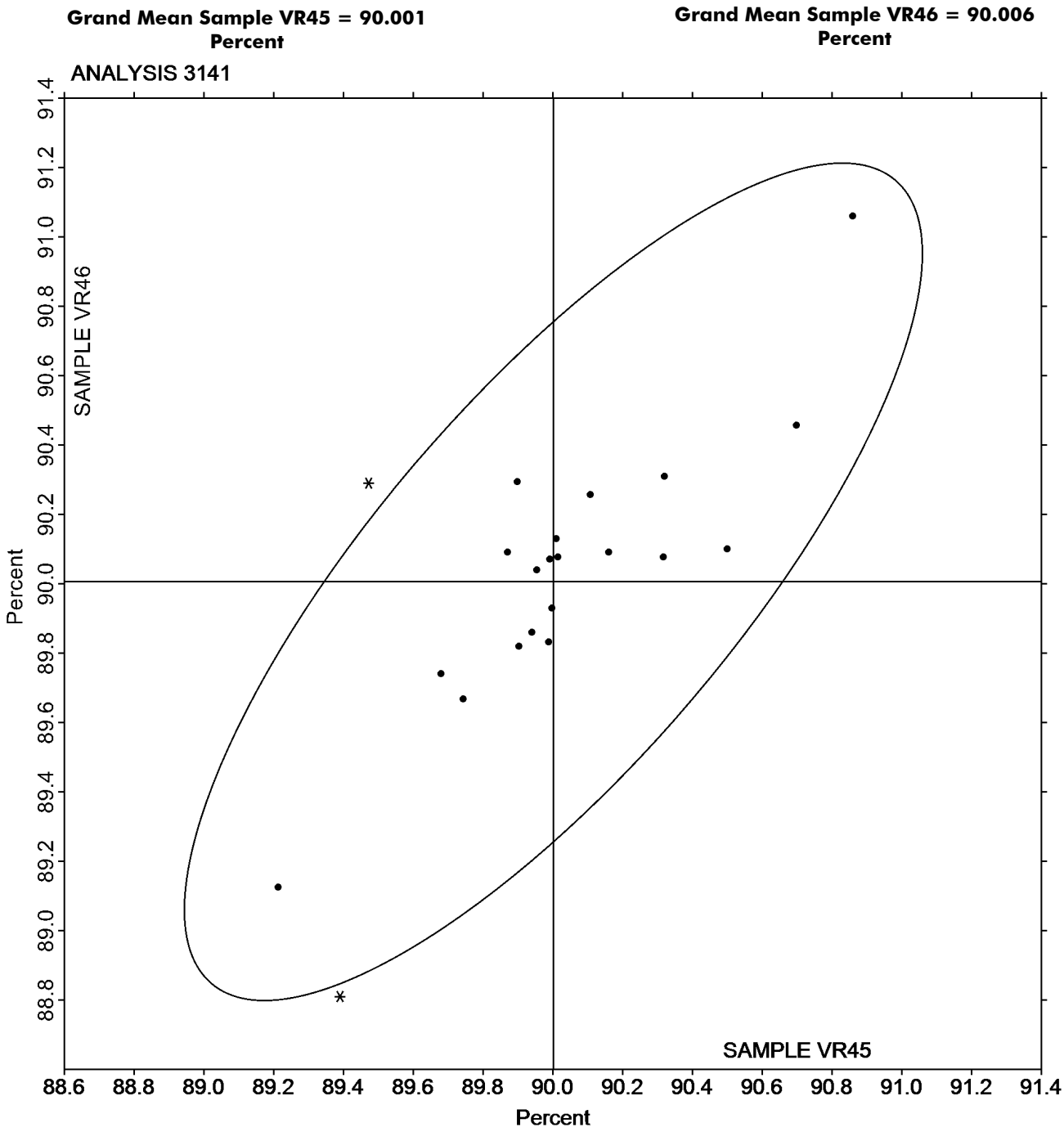
Opacity (89% Reflectance Backing) - Fine Papers

TAPPI Official Test Method T425

		Sample VR45			Sample VR46		
WebCode	Data Flag	Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2F9AJG		90.32	0.32	0.82	90.31	0.30	0.68
49JC7D		89.90	-0.10	-0.25	89.82	-0.19	-0.42
4PM7DD		90.02	0.01	0.03	90.08	0.07	0.16
67BFZF		89.74	-0.26	-0.66	89.67	-0.34	-0.76
6YPKYB		89.87	-0.13	-0.34	90.09	0.08	0.19
97XF6F		90.50	0.50	1.28	90.10	0.09	0.21
9BU6N9		89.68	-0.32	-0.82	89.74	-0.27	-0.60
E67BD4		90.86	0.86	2.20	91.06	1.05	2.37
E73LBR		89.99	-0.01	-0.03	89.83	-0.17	-0.39
JMNZEX		89.90	-0.10	-0.26	90.29	0.29	0.65
NBW64Y		89.95	-0.05	-0.12	90.04	0.03	0.07
PQPXPZ		90.70	0.70	1.79	90.46	0.45	1.01
PYYJDU		89.21	-0.79	-2.02	89.13	-0.88	-1.98
R2YAWE		89.94	-0.06	-0.16	89.86	-0.15	-0.33
V6RE2U	*	89.47	-0.53	-1.36	90.29	0.28	0.64
VFNKVT		90.32	0.32	0.81	90.08	0.07	0.16
VRHYT4		90.01	0.01	0.02	90.13	0.12	0.28
VULRPN	*	89.39	-0.61	-1.57	88.81	-1.20	-2.68
Y83NJG		90.00	0.00	-0.01	89.93	-0.08	-0.17
YTLT67		89.99	-0.01	-0.03	90.07	0.07	0.15
ZNK7NM		90.16	0.16	0.41	90.09	0.08	0.19
ZWEAU6		90.11	0.11	0.27	90.26	0.25	0.56

Summary Statistics	Sample VR45	Sample VR46
Grand Means	90.00 Percent	90.01 Percent
Stnd Dev Btwn Labs	0.39 Percent	0.45 Percent

Statistics based on 22 of 22 reporting participants.



Paper & Paperboard Interlaboratory Testing Program

Analysis 3143

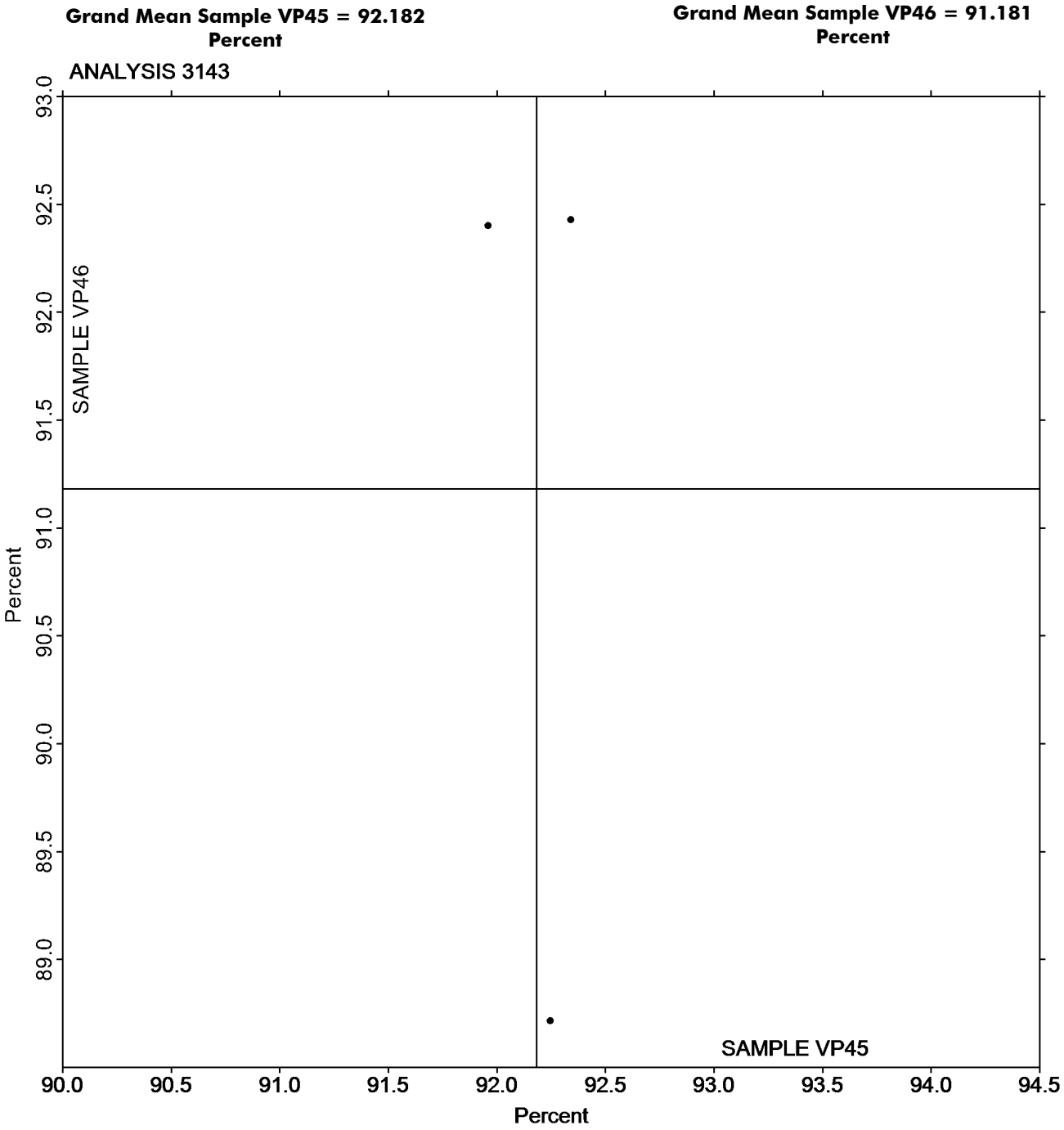
Opacity (Paper Backing) - Fine Papers and Newsprint

TAPPI Official Test Method T519

WebCode	Data Flag	Sample VP45 Lab Mean	Sample VP45 Diff from Grand Mean	Sample VP45 CPV	Sample VP46 Lab Mean	Sample VP46 Diff from Grand Mean	Sample VP46 CPV
ACZR2D		92.25	0.06	0.33	88.72	-2.46	-1.15
N4ME4G		91.96	-0.22	-1.12	92.40	1.22	0.57
VX9CUR		92.34	0.16	0.80	92.43	1.25	0.58

Summary Statistics	Sample VP45	Sample VP46
Grand Means	92.18 Percent	91.18 Percent
Stnd Dev Btwn Labs	0.20 Percent	2.13 Percent

Statistics based on 3 of 3 reporting participants.



If fewer than 20 laboratories are included in an analysis, a control ellipse will not be drawn on the two-sample plot.

Paper & Paperboard Interlaboratory Testing Program

Analysis 3145

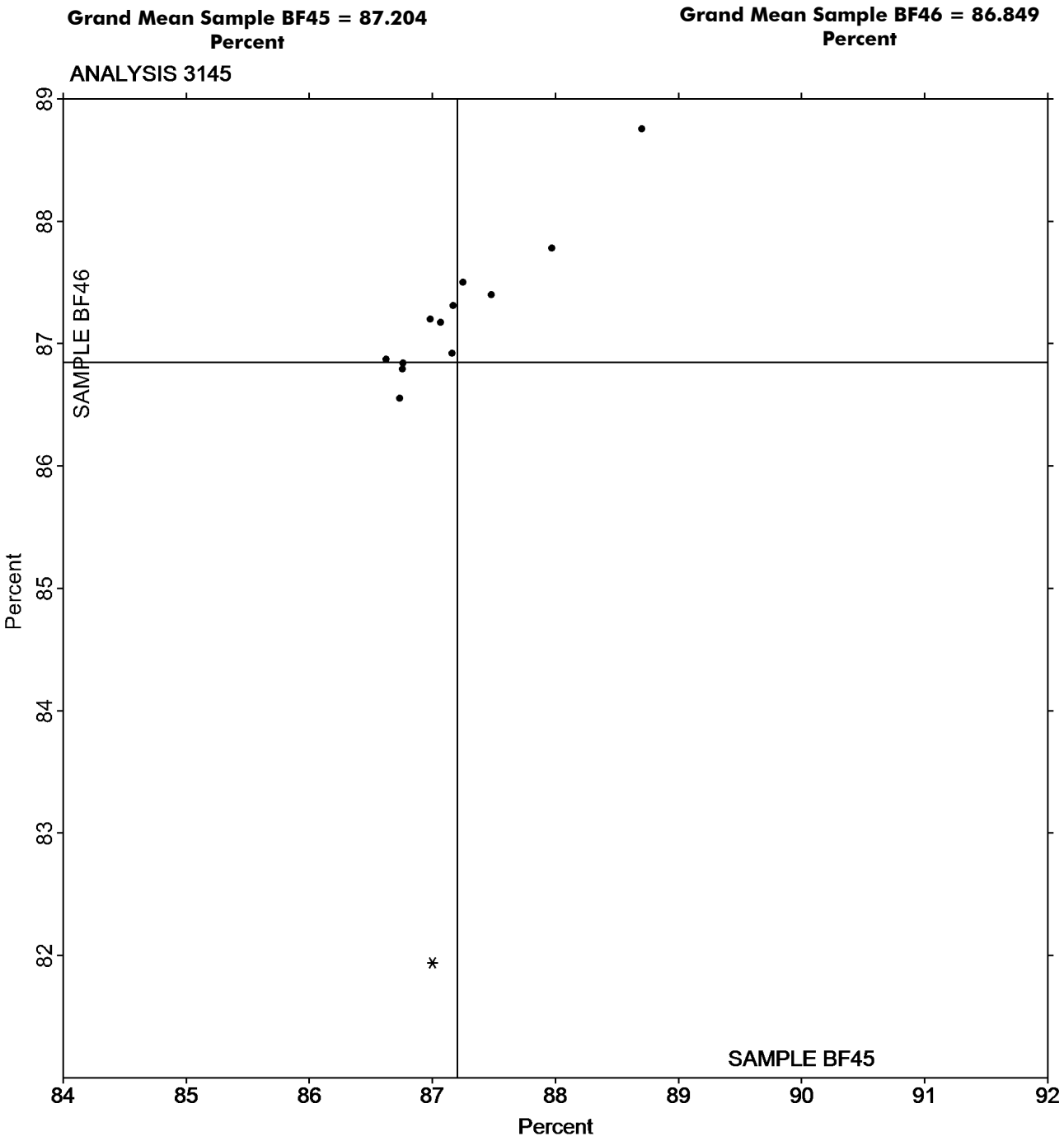
Directional Brightness of Fluorescent Samples

TAPPI Official Test Method T452

WebCode	Data Flag	Sample BF45 Lab Mean	Sample BF45 Diff from Grand Mean	Sample BF45 CPV	Sample BF46 Lab Mean	Sample BF46 Diff from Grand Mean	Sample BF46 CPV
2F9AJG		86.98	-0.22	-0.39	87.20	0.35	0.22
49JC7D		86.76	-0.45	-0.78	86.79	-0.06	-0.03
4PM7DD	*	87.00	-0.20	-0.36	81.94	-4.91	-3.11
97XF6F		86.76	-0.44	-0.77	86.84	-0.01	-0.01
ADEDBE		87.48	0.28	0.48	87.40	0.55	0.35
BJHFB9		88.70	1.50	2.60	88.75	1.90	1.21
E73LBR		87.16	-0.04	-0.08	86.92	0.07	0.04
NBW64Y		86.63	-0.58	-1.01	86.87	0.02	0.01
PQPXPZ		87.97	0.77	1.33	87.78	0.93	0.59
PYYJDU		87.07	-0.14	-0.24	87.17	0.32	0.21
RDUMUQ		86.74	-0.47	-0.81	86.55	-0.30	-0.19
Y83NJG		87.17	-0.03	-0.06	87.31	0.46	0.29
YTLT67		87.25	0.04	0.08	87.50	0.65	0.41

Summary Statistics	Sample BF45	Sample BF46
Grand Means	87.20 Percent	86.85 Percent
Stnd Dev Btwn Labs	0.58 Percent	1.58 Percent

Statistics based on 13 of 13 reporting participants.



If fewer than 20 laboratories are included in an analysis, a control ellipse will not be drawn on the two-sample plot.

Paper & Paperboard Interlaboratory Testing Program

Analysis 3146

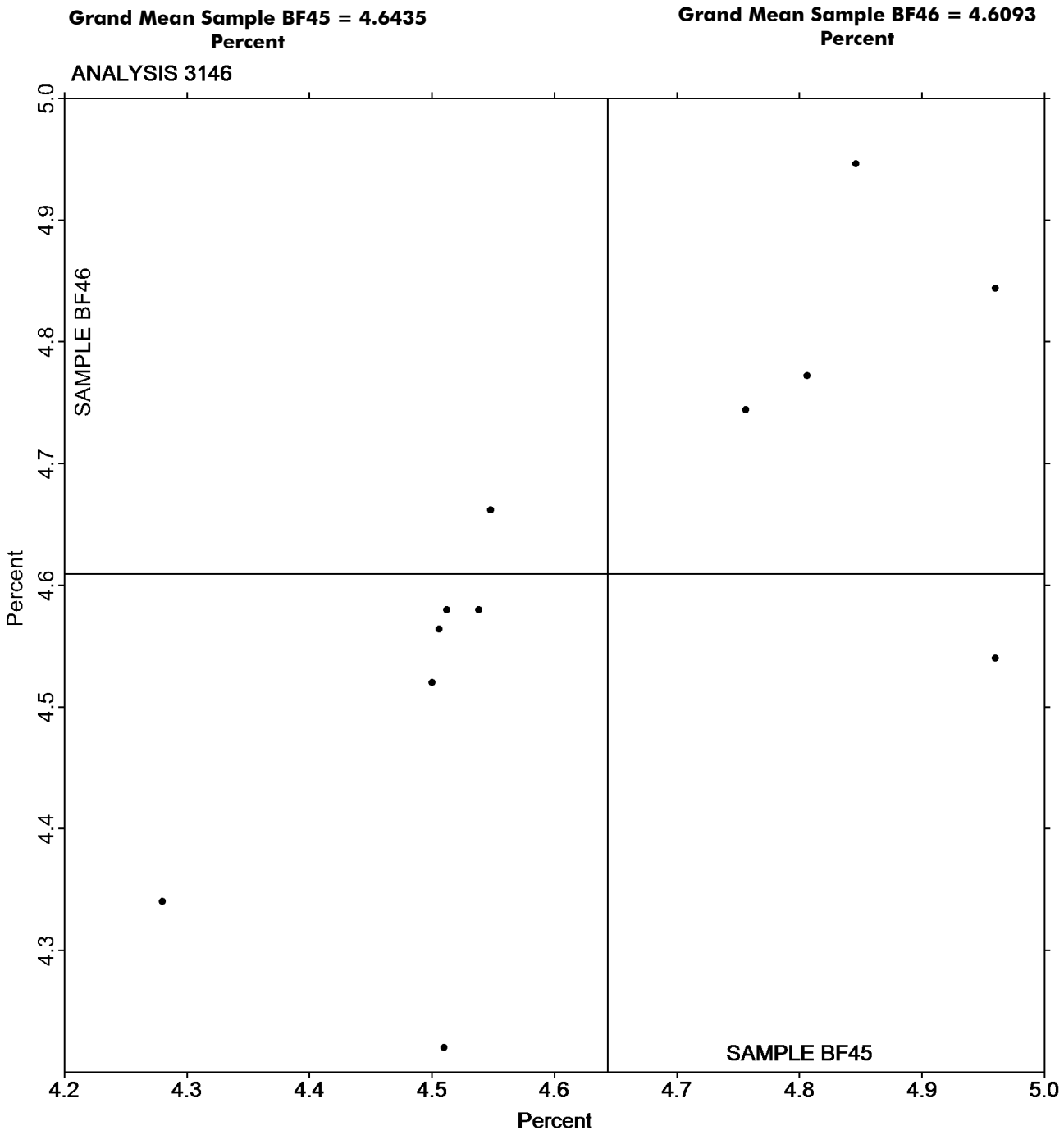
Fluorescent Component of Directional Brightness

TAPPI Official Test Method T452

WebCode	Data Flag	Sample BF45 Lab Mean	Sample BF45 Diff from Grand Mean	Sample BF45 CPV	Sample BF46 Lab Mean	Sample BF46 Diff from Grand Mean	Sample BF46 CPV
2F9AJG		4.846	0.202	0.94	4.946	0.337	1.65
49JC7D		4.538	-0.106	-0.49	4.580	-0.029	-0.14
4PM7DD		4.960	0.316	1.47	4.540	-0.069	-0.34
97XF6F		4.500	-0.144	-0.67	4.520	-0.089	-0.44
ADEDBE		4.280	-0.364	-1.69	4.340	-0.269	-1.32
BJHFB9		4.506	-0.138	-0.64	4.564	-0.045	-0.22
E73LBR		4.806	0.162	0.76	4.772	0.163	0.80
NBW64Y		4.512	-0.131	-0.61	4.580	-0.029	-0.14
PQPXPZ		4.960	0.317	1.47	4.844	0.235	1.15
RDUMUQ		4.510	-0.134	-0.62	4.220	-0.389	-1.91
Y83NJG		4.756	0.112	0.52	4.744	0.135	0.66
YTLT67		4.548	-0.096	-0.44	4.662	0.053	0.26

Summary Statistics	Sample BF45	Sample BF46
Grand Means	4.64 Percent	4.61 Percent
Stnd Dev Btwn Labs	0.21 Percent	0.20 Percent

Statistics based on 12 of 12 reporting participants.



If fewer than 20 laboratories are included in an analysis, a control ellipse will not be drawn on the two-sample plot.

Paper & Paperboard Interlaboratory Testing Program

Analysis 3201

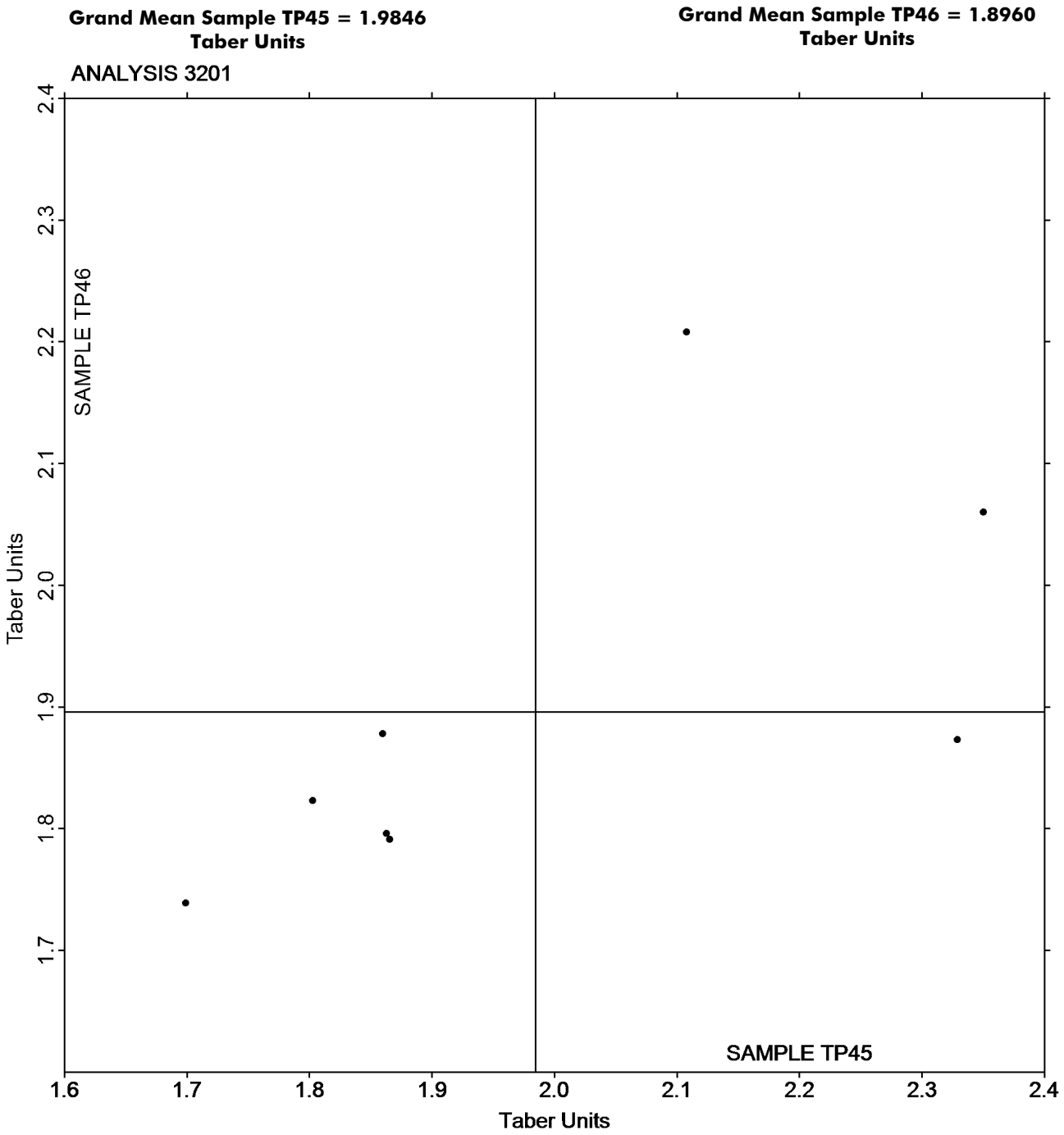
Bending Resistance, Taber Type - 0 to 10 Units

TAPPI Official Test Method T566

WebCode	Data Flag	Sample TP45 Lab Mean	Sample TP45 Diff from Grand Mean	Sample TP45 CPV	Sample TP46 Lab Mean	Sample TP46 Diff from Grand Mean	Sample TP46 CPV
4PM7DD		1.866	-0.119	-0.48	1.791	-0.105	-0.66
67BFZF		2.350	0.365	1.48	2.060	0.164	1.03
BPJR87		1.863	-0.122	-0.49	1.796	-0.100	-0.63
BTJ337		2.108	0.123	0.50	2.208	0.312	1.97
V6RE2U		2.329	0.344	1.40	1.873	-0.023	-0.15
Y83NJG		1.803	-0.182	-0.74	1.823	-0.073	-0.46
YTLT67		1.860	-0.125	-0.50	1.878	-0.018	-0.11
ZWEAU6		1.699	-0.286	-1.16	1.739	-0.157	-0.99

Summary Statistics	Sample TP45	Sample TP46
Grand Means	1.98 Taber Units	1.90 Taber Units
Stnd Dev Btwn Labs	0.25 Taber Units	0.16 Taber Units

Statistics based on 8 of 8 reporting participants.



If fewer than 20 laboratories are included in an analysis, a control ellipse will not be drawn on the two-sample plot.

Paper & Paperboard Interlaboratory Testing Program

Analysis 3203

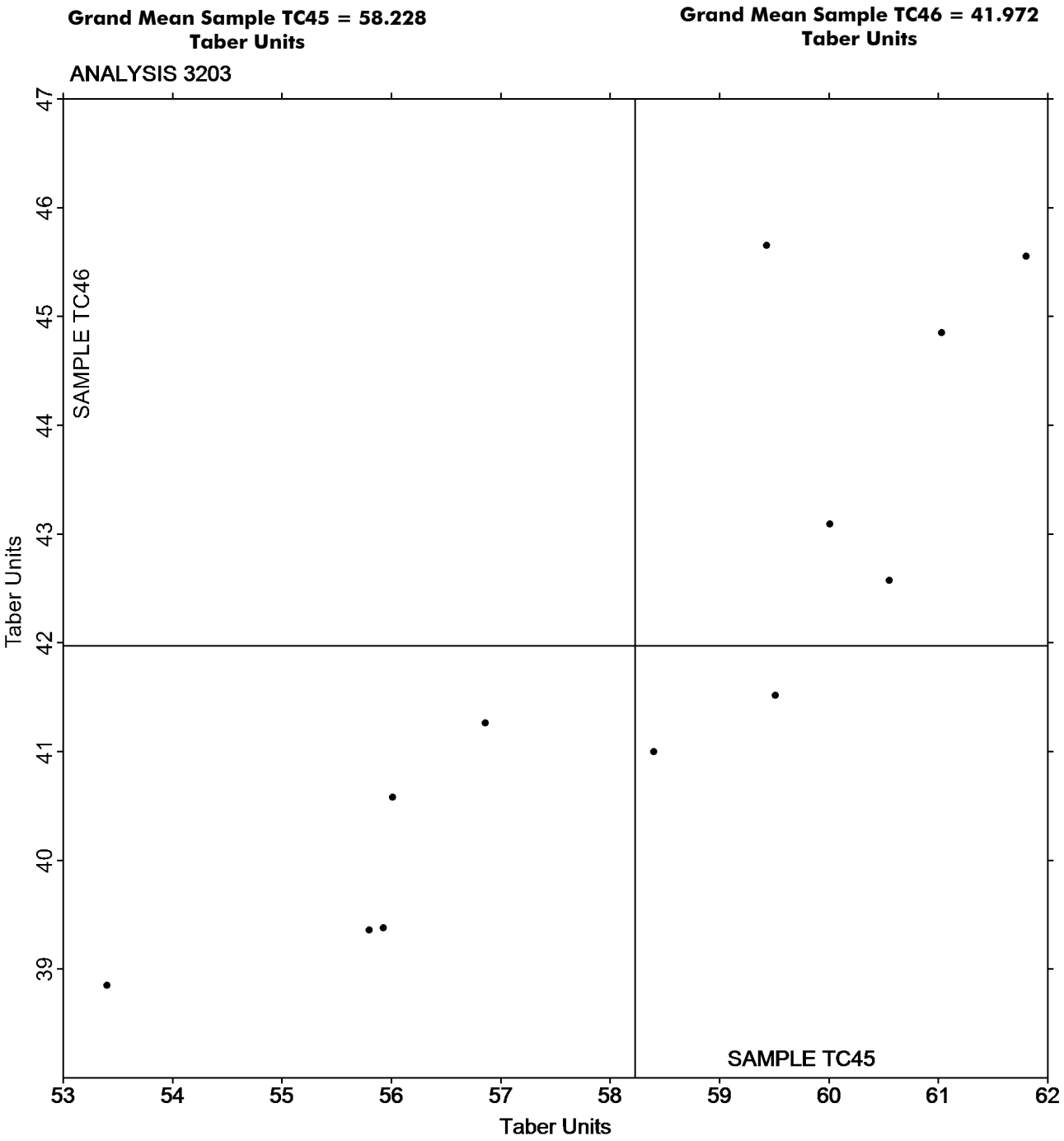
Bending Resistance, Taber Type - 10 to 100 Taber Units

TAPPI Official Test Method T489

WebCode	Data Flag	Sample TC45 Lab Mean	Sample TC45 Diff from Grand Mean	Sample TC45 CPV	Sample TC46 Lab Mean	Sample TC46 Diff from Grand Mean	Sample TC46 CPV
2F9AJG		55.80	-2.43	-0.94	39.36	-2.61	-1.09
44T2WF		60.55	2.32	0.90	42.57	0.60	0.25
68LHLE		61.03	2.80	1.08	44.85	2.88	1.20
7QVY7H		58.40	0.17	0.07	41.00	-0.97	-0.41
8EFA8D		59.51	1.28	0.50	41.52	-0.46	-0.19
CXXZ98		61.81	3.58	1.38	45.55	3.58	1.49
H9AFGY		59.43	1.20	0.46	45.65	3.68	1.54
L4LZFW		60.01	1.78	0.69	43.09	1.12	0.47
NBW64Y		56.86	-1.37	-0.53	41.26	-0.71	-0.30
TM2JEM		53.40	-4.83	-1.87	38.85	-3.12	-1.30
ZFVHTK		55.93	-2.30	-0.89	39.38	-2.59	-1.08
ZWEAU6		56.01	-2.22	-0.86	40.58	-1.39	-0.58

Summary Statistics	Sample TC45	Sample TC46
Grand Means	58.23 Taber Units	41.97 Taber Units
Stnd Dev Btwn Labs	2.59 Taber Units	2.40 Taber Units

Statistics based on 12 of 12 reporting participants.



If fewer than 20 laboratories are included in an analysis, a control ellipse will not be drawn on the two-sample plot.

Paper & Paperboard Interlaboratory Testing Program

Analysis 3205

Bending Resistance, Taber Type - 50 to 500 Taber Units - Recycled Paperboard

TAPPI Official Test Method T489

WebCode	Data Flag	Sample TR45 Lab Mean	Sample TR45 Diff from Grand Mean	Sample TR45 CPV	Sample TR46 Lab Mean	Sample TR46 Diff from Grand Mean	Sample TR46 CPV
44T2WF		181.6	7.7	1.05	184.5	10.4	1.39
6YPKYB		169.9	-4.0	-0.55	170.0	-4.1	-0.55
7XE76B	X	18.8	-155.1	-21.23	18.4	-155.7	-20.73
8EFA8D		175.2	1.3	0.18	174.7	0.6	0.08
B2E3FD		177.6	3.7	0.51	176.1	2.0	0.27
EEVY97	X	19.2	-154.7	-21.17	20.0	-154.1	-20.53
EFLZC9		156.5	-17.4	-2.38	158.4	-15.7	-2.09
GZ2JZM		175.3	1.4	0.19	172.8	-1.3	-0.17
L4LZFW		175.0	1.1	0.15	181.8	7.7	1.03
U83ZCP		174.6	0.7	0.10	171.6	-2.5	-0.33
XZAWXH		179.3	5.4	0.74	176.9	2.8	0.37

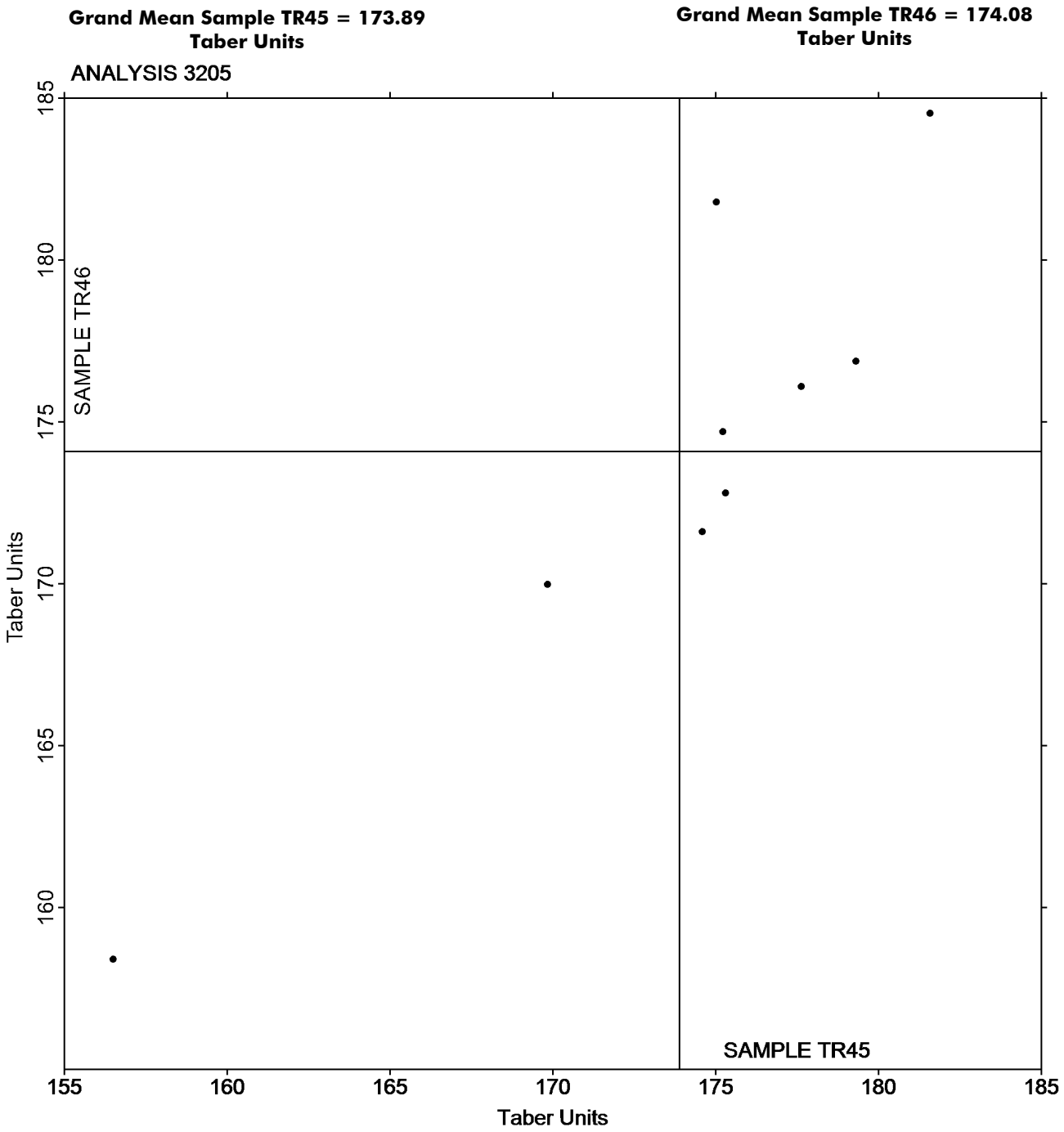
Summary Statistics	Sample TR45	Sample TR46
Grand Means	173.89 Taber Units	174.08 Taber Units
Stnd Dev Btwn Labs	7.31 Taber Units	7.51 Taber Units

Statistics based on 9 of 11 reporting participants.

Comments on Assigned Data Flags for Test #3205

7XE76B (X) - Extreme Data.

EEVY97 (X) - Extreme Data.



If fewer than 20 laboratories are included in an analysis, a control ellipse will not be drawn on the two-sample plot.

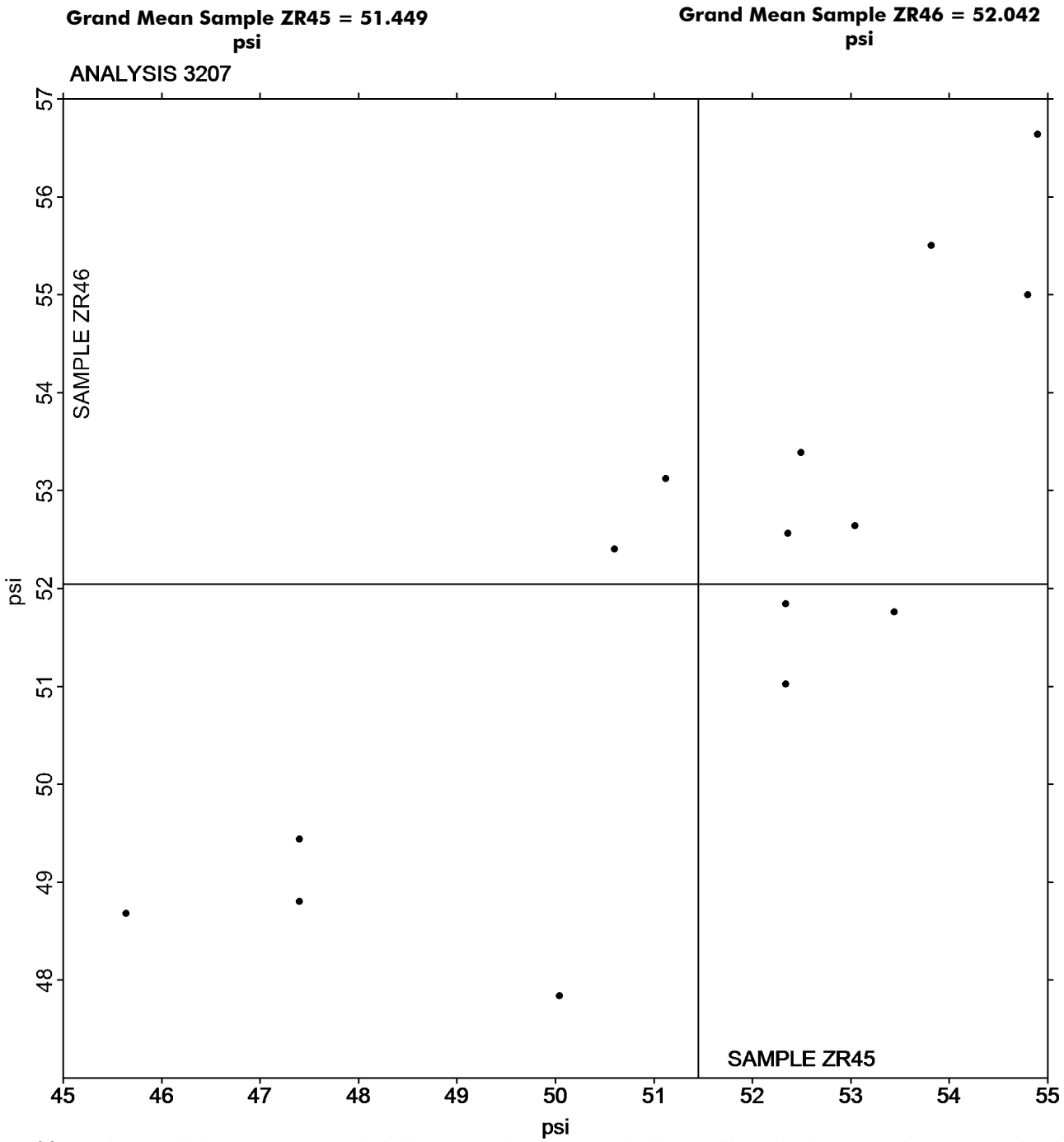
Paper & Paperboard Interlaboratory Testing Program

Analysis 3207
Z-Direction Tensile, Recycled Paperboard
TAPPI Official Test Method T541

WebCode	Data Flag	Sample ZR45 Lab Mean	Sample ZR45 Diff from Grand Mean	Sample ZR45 CPV	Sample ZR46 Lab Mean	Sample ZR46 Diff from Grand Mean	Sample ZR46 CPV
3VHF9K		52.36	0.91	0.33	52.56	0.52	0.20
6YPKYB		52.34	0.89	0.32	51.02	-1.02	-0.40
7XE76B		50.60	-0.85	-0.31	52.40	0.36	0.14
8EFA8D		53.44	1.99	0.72	51.76	-0.28	-0.11
9NEKR8		45.64	-5.81	-2.09	48.68	-3.36	-1.30
B2E3FD		51.12	-0.33	-0.12	53.12	1.08	0.42
EEVY97		53.04	1.59	0.57	52.64	0.60	0.23
GZ2JZM		52.34	0.89	0.32	51.84	-0.20	-0.08
H36EG6		52.49	1.04	0.38	53.39	1.35	0.52
L4LZFW		53.82	2.37	0.85	55.50	3.46	1.34
LKXJC4		54.80	3.35	1.21	55.00	2.96	1.15
LPRBLL		47.40	-4.05	-1.46	49.44	-2.60	-1.01
LYVP6Y		50.04	-1.41	-0.51	47.84	-4.20	-1.63
WJLJJQ		54.90	3.45	1.24	56.64	4.60	1.78
YRTY7G		47.40	-4.05	-1.46	48.80	-3.24	-1.26

Summary Statistics	Sample ZR45	Sample ZR46
Grand Means	51.45 psi	52.04 psi
Stnd Dev Btwn Labs	2.78 psi	2.58 psi

Statistics based on 15 of 15 reporting participants.



If fewer than 20 laboratories are included in an analysis, a control ellipse will not be drawn on the two-sample plot.

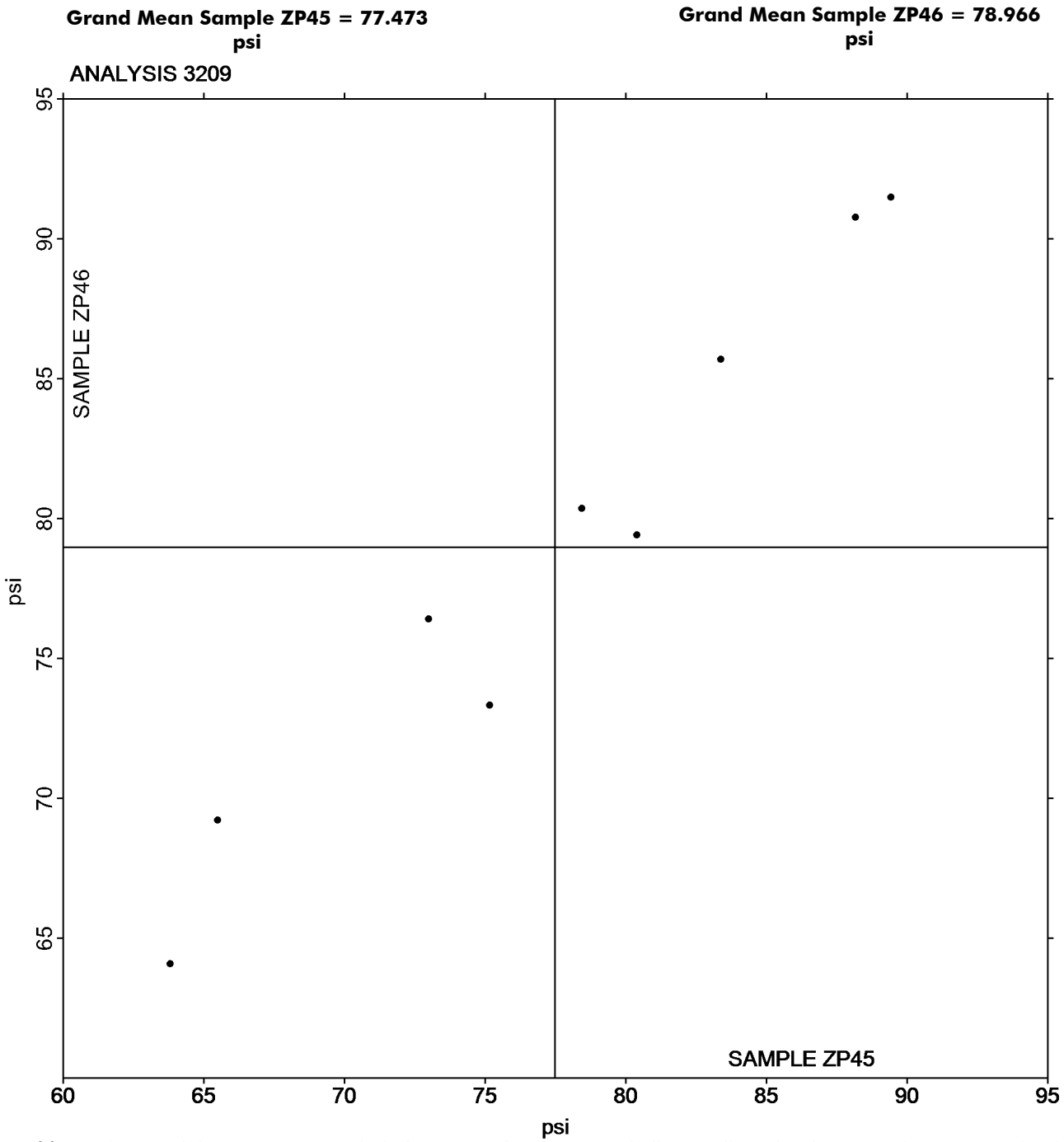
Paper & Paperboard Interlaboratory Testing Program

Analysis 3209
Z-Direction Tensile
TAPPI Official Test Method T541

WebCode	Data Flag	Sample ZP45 Lab Mean	Sample ZP45 Diff from Grand Mean	Sample ZP45 CPV	Sample ZP46 Lab Mean	Sample ZP46 Diff from Grand Mean	Sample ZP46 CPV
68LHLE		88.16	10.69	1.18	90.76	11.79	1.26
7QVY7H		80.40	2.93	0.32	79.40	0.43	0.05
ACZR2D		65.50	-11.97	-1.32	69.21	-9.75	-1.04
BZJJDB		73.00	-4.47	-0.49	76.40	-2.57	-0.27
CXXZ98		78.44	0.97	0.11	80.36	1.39	0.15
EFLZC9		83.38	5.91	0.65	85.68	6.71	0.72
H9AFGY		63.80	-13.67	-1.51	64.08	-14.89	-1.59
L4LZFW		89.42	11.95	1.32	91.48	12.51	1.34
U83ZCP		75.16	-2.31	-0.26	73.32	-5.65	-0.60

Summary Statistics	Sample ZP45	Sample ZP46
Grand Means	77.47 psi	78.97 psi
Stnd Dev Btwn Labs	9.06 psi	9.34 psi

Statistics based on 9 of 9 reporting participants.



If fewer than 20 laboratories are included in an analysis, a control ellipse will not be drawn on the two-sample plot.

Paper & Paperboard Interlaboratory Testing Program

Analysis 3211

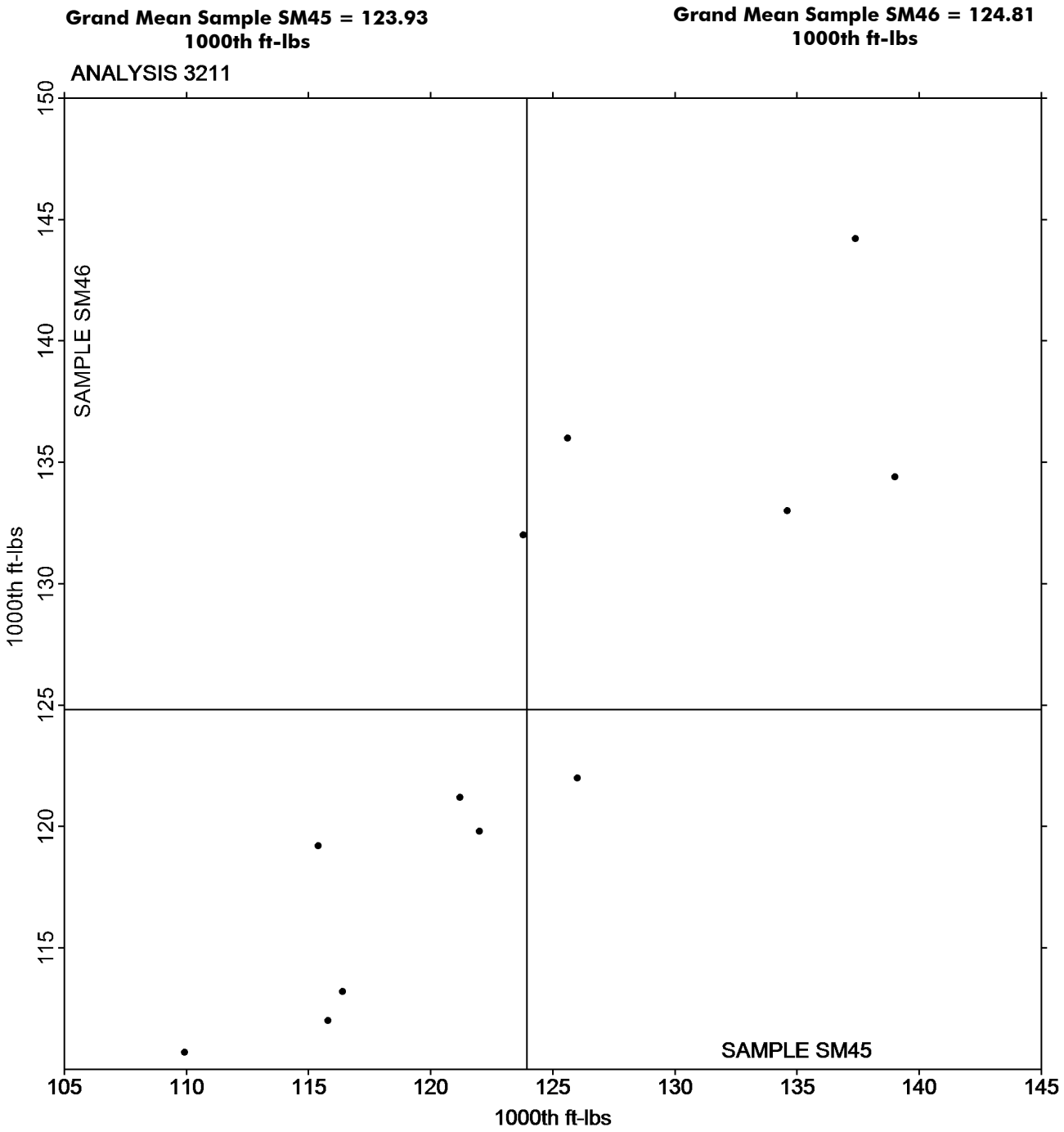
Internal Bond Strength - Modified Scott Mechanics

TAPPI Provisional Test Method T569

WebCode	Data Flag	Sample SM45 Lab Mean	Sample SM45 Diff from Grand Mean	Sample SM45 CPV	Sample SM46 Lab Mean	Sample SM46 Diff from Grand Mean	Sample SM46 CPV
68LHLE		137.4	13.5	1.46	144.2	19.4	1.79
7QVY7H		126.0	2.1	0.23	122.0	-2.8	-0.26
ADEDBE		125.6	1.7	0.18	136.0	11.2	1.03
B2E3FD		115.8	-8.1	-0.88	112.0	-12.8	-1.18
BTJ337		109.9	-14.0	-1.52	110.7	-14.1	-1.30
CXDJT6		134.6	10.7	1.16	133.0	8.2	0.76
CXXZ98		139.0	15.1	1.64	134.4	9.6	0.89
E73LBR		116.4	-7.5	-0.82	113.2	-11.6	-1.07
EFLZC9		115.4	-8.5	-0.93	119.2	-5.6	-0.52
JZFRY2		121.2	-2.7	-0.30	121.2	-3.6	-0.33
L4LZFW		123.8	-0.1	-0.01	132.0	7.2	0.66
VFNKVT		122.0	-1.9	-0.21	119.8	-5.0	-0.46

Summary Statistics	Sample SM45	Sample SM46
Grand Means	123.93 1000th ft-lbs	124.81 1000th ft-lbs
Stnd Dev Btwn Labs	9.21 1000th ft-lbs	10.82 1000th ft-lbs

Statistics based on 12 of 12 reporting participants.



If fewer than 20 laboratories are included in an analysis, a control ellipse will not be drawn on the two-sample plot.

Paper & Paperboard Interlaboratory Testing Program

Analysis 3213

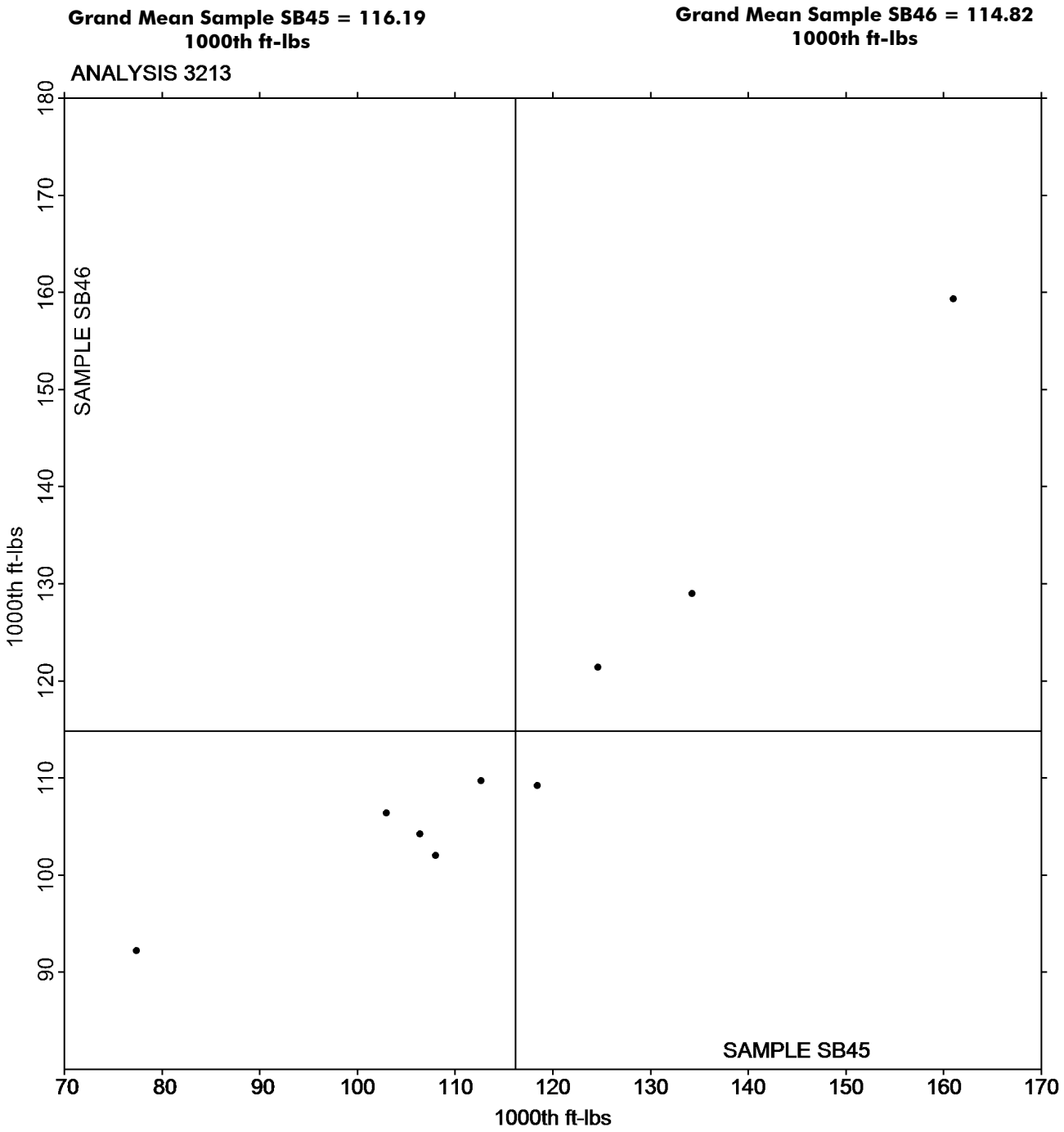
Internal Bond Strength - Scott Bond Models

TAPPI Provisional Test Method T569

WebCode	Data Flag	Sample SB45 Lab Mean	Sample SB45 Diff from Grand Mean	Sample SB45 CPV	Sample SB46 Lab Mean	Sample SB46 Diff from Grand Mean	Sample SB46 CPV
3NYC2H		118.4	2.2	0.10	109.2	-5.6	-0.28
3UPMD3		106.4	-9.8	-0.42	104.2	-10.6	-0.54
97XF6F		124.6	8.4	0.36	121.4	6.6	0.33
H36EG6		77.4	-38.8	-1.68	92.2	-22.6	-1.14
HA7QEM		161.0	44.8	1.94	159.3	44.5	2.25
TM2JEM		134.2	18.1	0.78	129.0	14.1	0.71
YB7J47		112.6	-3.5	-0.15	109.7	-5.1	-0.26
YTLT67		108.0	-8.2	-0.35	102.0	-12.8	-0.65
ZWEAU6		103.0	-13.2	-0.57	106.4	-8.4	-0.43

Summary Statistics	Sample SB45	Sample SB46
Grand Means	116.19 1000th ft-lbs	114.82 1000th ft-lbs
Stnd Dev Btwn Labs	23.09 1000th ft-lbs	19.81 1000th ft-lbs

Statistics based on 9 of 9 reporting participants.



If fewer than 20 laboratories are included in an analysis, a control ellipse will not be drawn on the two-sample plot.

-End of Report-