Collaborative Testing Services, Inc.

Paper & Paperboard Testing Program

Summary Report #3121 S - May 2021

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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 industrial sectors: rubber, plastics, fasteners and metals, CKPG, paper, color 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 80 countries, currently participate in CTS programs.

If there are any questions on the report or testing program, please contact:

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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 305

Bursting Strength - Printing Papers

TAPPI Official Test Method T403

WebCode	Data Flag	Sample SA91 Lab Mean	Sample SA91 Diff from Grand Mean	Sample SA91 CPV	Sample SA92 Lab Mean	Sample SA92 Diff from Grand Mean	Sample SA92 CPV
4KXDLW		48.76	0.99	0.30	47.56	-0.40	-0.13
4RG8PL		50.00	2.23	0.69	49.50	1.54	0.49
4ZCK23		47.74	-0.04	-0.01	49.39	1.43	0.45
67DNEK		50.85	3.08	0.95	50.95	3.00	0.94
84K49L		49.90	2.13	0.66	48.08	0.12	0.04
AFKLXQ		46.17	-1.61	-0.50	46.69	-1.27	-0.40
AJ647F	*	56.50	8.73	2.69	54.50	6.54	2.06
AKFFVR		48.57	0.79	0.24	48.23	0.27	0.09
AYYZEL		43.70	-4.07	-1.26	44.34	-3.62	-1.14
DV83EK		46.91	-0.86	-0.27	48.94	0.98	0.31
E7HVHK		48.34	0.56	0.17	47.98	0.02	0.01
G9H67J		47.40	-0.37	-0.12	45.20	-2.76	-0.87
GRQ8ZH		49.31	1.54	0.47	49.76	1.80	0.57
HFW9QQ	X	11.59	-36.19	-11.16	11.09	-36.87	-11.62
HKQ6FH		45.97	-1.80	-0.56	48.10	0.14	0.04
HRTM22		45.63	-2.14	-0.66	44.99	-2.97	-0.94
HV9PXT		46.20	-1.58	-0.49	47.14	-0.82	-0.26
KFDEEZ		43.28	-4.49	-1.39	44.04	-3.92	-1.24
NLN77G		52.83	5.06	1.56	50.54	2.58	0.81
P37R2R		43.30	-4.47	-1.38	43.70	-4.26	-1.34
QJQ663		47.30	-0.47	-0.15	47.90	-0.06	-0.02
QZV7PB		45.85	-1.93	-0.59	44.22	-3.74	-1.18
RG3KNK		45.40	-2.37	-0.73	45.40	-2.56	-0.81
RHFMKX		44.14	-3.63	-1.12	44.46	-3.50	-1.10
TGGYGR		46.49	-1.28	-0.40	46.79	-1.17	-0.37
TXM2FZ		44.86	-2.91	-0.90	46.76	-1.20	-0.38
WJ9W92	*	55.00	7.23	2.23	56.80	8.84	2.79
XPDTT2		46.16	-1.61	-0.50	46.33	-1.63	-0.51
XPVCLT		51.10	3.33	1.03	53.60	5.64	1.78
ZKPQMK		47.80	0.03	0.01	48.90	0.94	0.30

Summary Statistics	Sample SA91	Sample SA92
Grand Means	47.77 psi	47.96 psi
Stnd Dev Btwn Labs	3.24 psi	3.17 psi

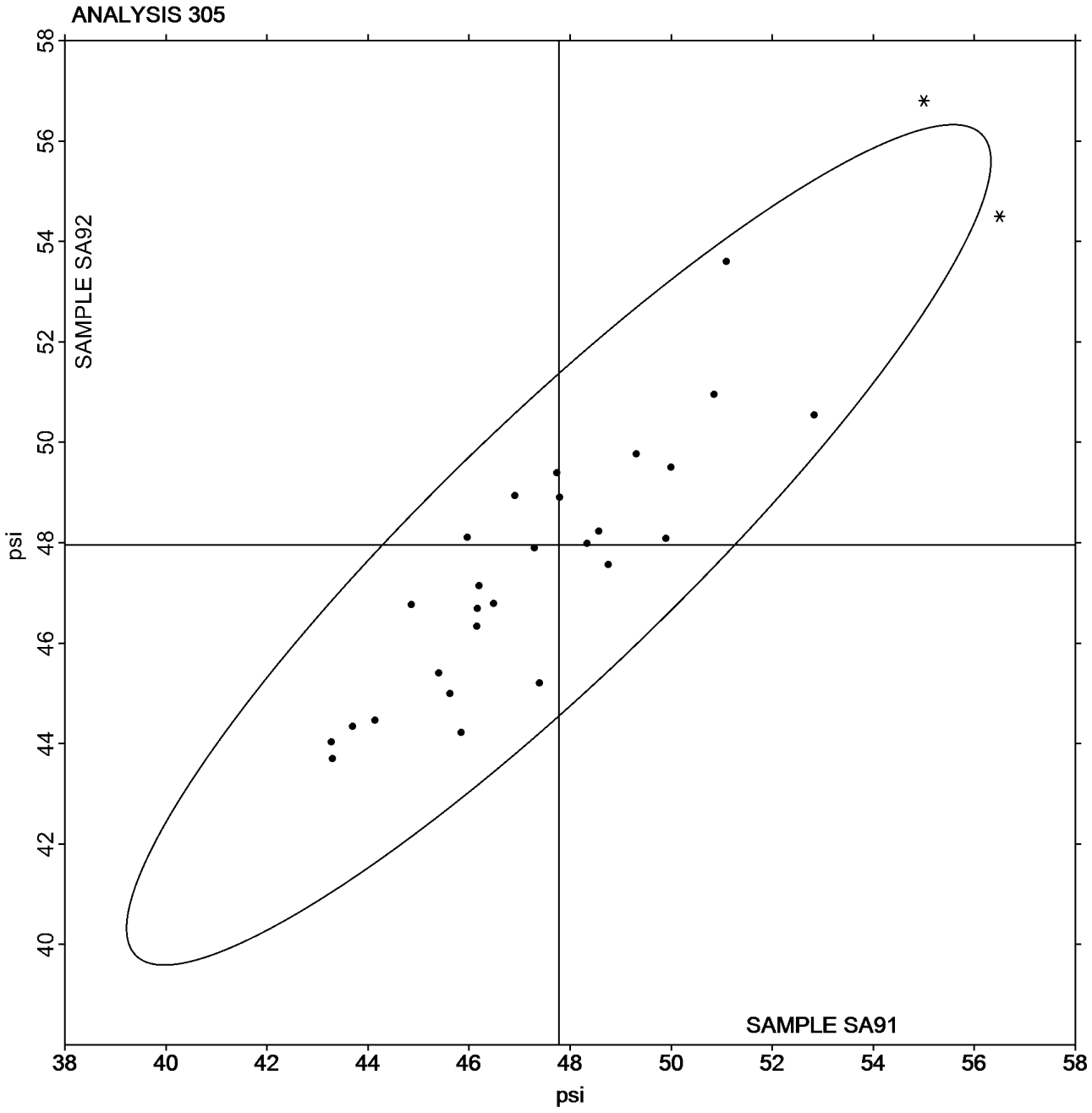
Statistics based on 29 of 30 reporting participants.

Comments on Assigned Data Flags for Test #305

HFW9QQ (X) - Extreme Data.

Grand Mean Sample SA91 = 47.774 psi

Grand Mean Sample SA92 = 47.958 psi



Paper & Paperboard Interlaboratory Testing Program

Analysis 310

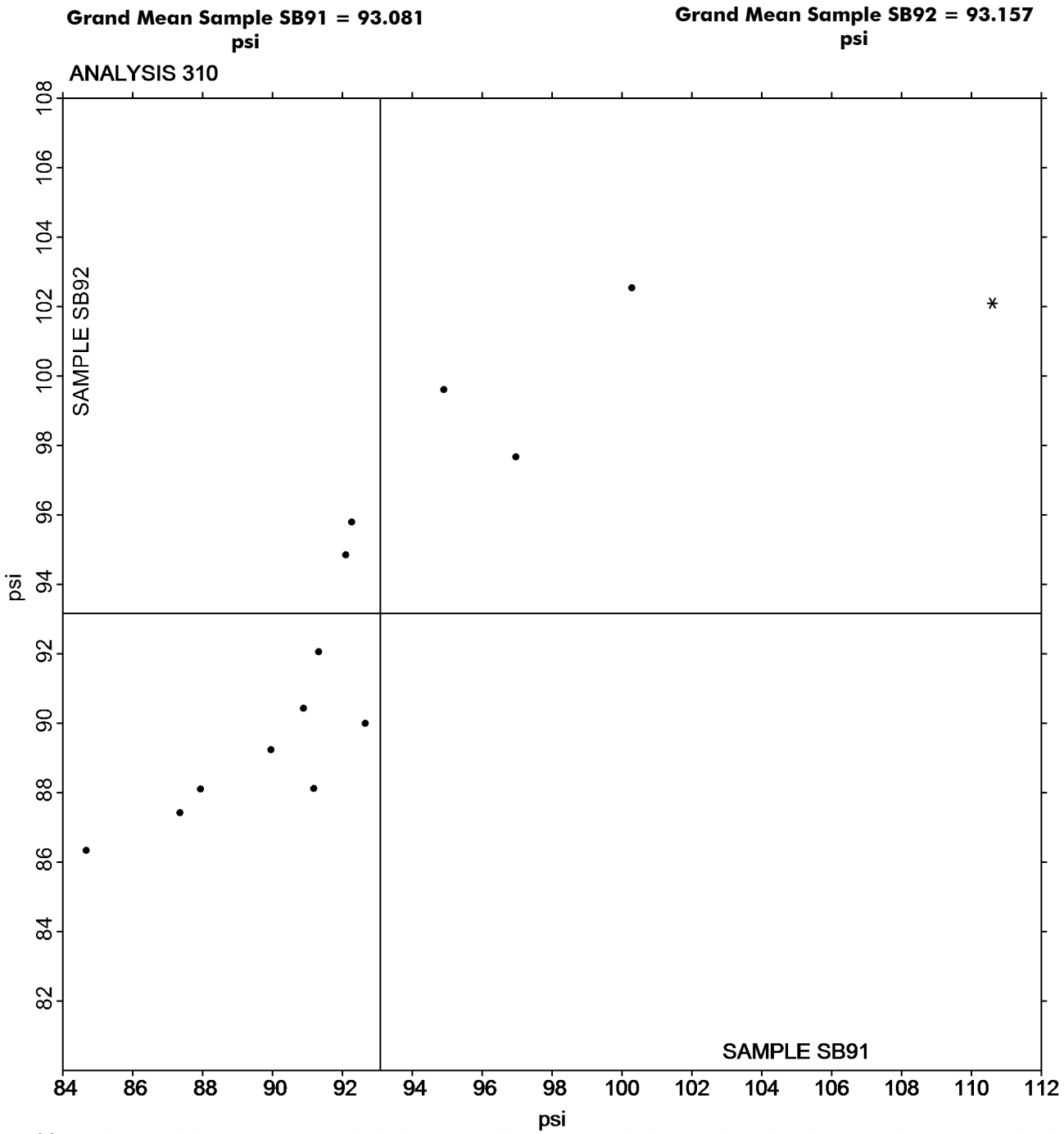
Bursting Strength - Packaging Papers

TAPPI Official Test Method T403

WebCode	Data Flag	Sample SB91 Lab Mean	Sample SB91 Diff from Grand Mean	Sample SB91 CPV	Sample SB92 Lab Mean	Sample SB92 Diff from Grand Mean	Sample SB92 CPV
A8R92X		94.90	1.82	0.28	99.60	6.44	1.16
CTMUUY		96.97	3.89	0.61	97.66	4.50	0.81
E7HVHK		89.96	-3.12	-0.49	89.24	-3.92	-0.70
G8QR3F		92.27	-0.81	-0.13	95.79	2.63	0.47
HHKMDF		87.36	-5.72	-0.90	87.42	-5.74	-1.03
KEAL6E		84.68	-8.41	-1.32	86.34	-6.82	-1.22
M3V7FK		87.95	-5.13	-0.80	88.10	-5.06	-0.91
PMW9GY		91.33	-1.75	-0.27	92.05	-1.11	-0.20
T3CBF6		100.29	7.21	1.13	102.53	9.38	1.68
ULJZ32		90.89	-2.19	-0.34	90.43	-2.73	-0.49
YAEBF9		92.10	-0.98	-0.15	94.85	1.69	0.30
YBATD4		91.19	-1.89	-0.30	88.11	-5.05	-0.91
YFFPX4	*	110.60	17.52	2.74	102.10	8.94	1.60
ZJW8WZ		92.66	-0.42	-0.07	89.99	-3.17	-0.57

Summary Statistics	Sample SB91	Sample SB92
Grand Means	93.08 psi	93.16 psi
Stnd Dev Btwn Labs	6.39 psi	5.58 psi

Statistics based on 14 of 14 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 312

Tearing Strength - Printing Papers

TAPPI Official Test Method T414

WebCode	Data Flag	Sample SC91 Lab Mean	Sample SC91 Diff from Grand Mean	Sample SC91 CPV	Sample SC92 Lab Mean	Sample SC92 Diff from Grand Mean	Sample SC92 CPV
4KXDLW		48.96	2.50	0.72	48.57	2.04	0.55
4RG8PL		48.29	1.83	0.53	49.86	3.33	0.90
4ZCK23		48.36	1.90	0.55	48.64	2.11	0.57
67DNEK		40.96	-5.50	-1.58	40.85	-5.68	-1.53
6FZC2U		46.04	-0.42	-0.12	45.44	-1.09	-0.29
84K49L		46.06	-0.40	-0.11	46.02	-0.51	-0.14
9UQHGT		44.51	-1.95	-0.56	44.05	-2.48	-0.67
AFKLXQ		48.76	2.31	0.66	48.49	1.96	0.53
AJ647F		48.70	2.24	0.64	49.00	2.47	0.67
CL8LGG		42.40	-4.06	-1.17	43.10	-3.43	-0.92
CTMUUY		44.76	-1.70	-0.49	45.48	-1.05	-0.28
DNPUQN		42.20	-4.26	-1.22	42.42	-4.11	-1.11
DT48VG	X	51.64	5.18	1.49	48.04	1.52	0.41
DV83EK		44.95	-1.51	-0.43	43.86	-2.67	-0.72
E7HVHK		43.32	-3.14	-0.90	43.53	-3.00	-0.81
ED2QBE		39.19	-7.27	-2.09	37.96	-8.57	-2.31
G8QR3F		43.51	-2.95	-0.85	42.62	-3.91	-1.05
G9H67J		46.90	0.44	0.13	46.50	-0.03	-0.01
GQLKMD		43.15	-3.31	-0.95	43.59	-2.94	-0.79
GRQ8ZH		46.84	0.38	0.11	46.61	0.08	0.02
H4M4Q3		49.96	3.50	1.01	50.14	3.61	0.97
HRTM22	*	44.70	-1.76	-0.50	46.42	-0.11	-0.03
M3V7FK		43.77	-2.69	-0.77	43.29	-3.24	-0.87
P37R2R		46.20	-0.26	-0.07	46.20	-0.33	-0.09
PDL7VY	*	51.28	4.82	1.39	50.08	3.55	0.96
QZV7PB		47.22	0.77	0.22	47.84	1.31	0.35
RHFMKX	*	55.74	9.28	2.67	56.33	9.80	2.64
T3CBF6		45.34	-1.11	-0.32	45.48	-1.05	-0.28
TER36E		52.03	5.58	1.60	52.13	5.60	1.51
TM2RHD	X	47.00	0.54	0.16	43.98	-2.55	-0.69
TXM2FZ		49.68	3.22	0.93	50.68	4.15	1.12
U9WQHG		52.52	6.06	1.74	53.36	6.83	1.84
ULJZ32		49.69	3.24	0.93	49.71	3.18	0.86
VA9E8R	X	47.51	1.05	0.30	50.99	4.46	1.20
VK8K9Z	X	65.18	18.72	5.38	65.43	18.90	5.10
W27MEP		41.84	-4.62	-1.33	41.80	-4.73	-1.28
X7XN34		45.59	-0.86	-0.25	45.90	-0.63	-0.17
XPDTT2		49.00	2.54	0.73	49.52	2.99	0.81
XPVCLT		46.50	0.04	0.01	47.10	0.57	0.15
YAEBF9		46.93	0.47	0.14	47.49	0.96	0.26

Paper & Paperboard Interlaboratory Testing Program

Analysis 312

Tearing Strength - Printing Papers

TAPPI Official Test Method T414

WebCode	Data Flag	Sample SC91 Lab Mean	Sample SC91 Diff from Grand Mean	Sample SC91 CPV	Sample SC92 Lab Mean	Sample SC92 Diff from Grand Mean	Sample SC92 CPV
YBATD4		48.40	1.94	0.56	48.38	1.85	0.50
YFFPX4	X	55.80	9.34	2.68	59.00	12.47	3.36
ZBL8Z4		46.04	-0.42	-0.12	45.22	-1.31	-0.35
ZFXV2Z		41.48	-4.98	-1.43	40.97	-5.56	-1.50

Summary Statistics	Sample SC91	Sample SC92
Grand Means	46.46 Grams	46.53 Grams
Stnd Dev Btwn Labs	3.48 Grams	3.71 Grams

Statistics based on 39 of 44 reporting participants.

Comments on Assigned Data Flags for Test #312

VA9E8R (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample SC92.

VK8K9Z (X) - Data for both samples are high. Possible Systematic Error.

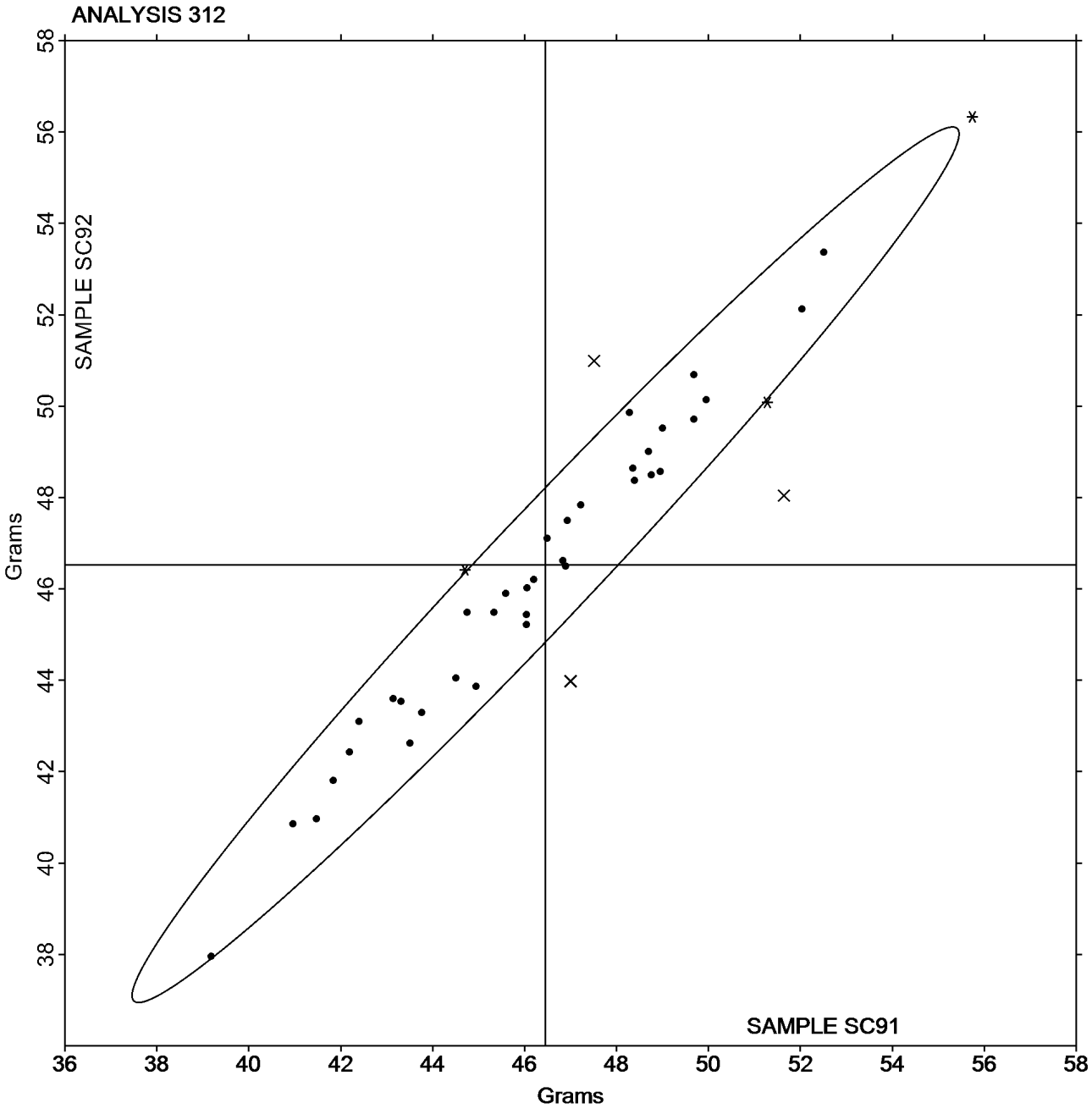
DT48VG (X) - Inconsistent in testing between samples.

YFFPX4 (X) - Data for both samples are high. Possible Systematic Error.

TM2RHD (X) - Inconsistent in testing between samples.

Grand Mean Sample SC91 = 46.455 Grams

Grand Mean Sample SC92 = 46.529 Grams



Paper & Paperboard Interlaboratory Testing Program

Analysis 314

Tearing Strength - Packaging Papers

TAPPI Official Test Method T414

WebCode	Data Flag	Sample SD91 Lab Mean	Sample SD91 Diff from Grand Mean	Sample SD91 CPV	Sample SD92 Lab Mean	Sample SD92 Diff from Grand Mean	Sample SD92 CPV
23N6KQ		130.0	7.4	0.59	129.4	7.4	0.61
466NPZ		126.5	3.9	0.31	119.0	-3.0	-0.24
4XMDCY		129.9	7.3	0.59	127.3	5.3	0.44
6H6343		94.9	-27.7	-2.22	95.8	-26.1	-2.14
8CAG2B		134.2	11.6	0.93	137.0	15.0	1.23
9WZVDF	X	311.8	189.2	15.17	310.3	188.3	15.42
E7HVHK		114.7	-7.9	-0.63	116.2	-5.7	-0.47
E8WL9F		119.8	-2.8	-0.22	123.1	1.1	0.09
FLQ9CM		117.5	-5.1	-0.41	123.3	1.4	0.11
FVKAVL		145.7	23.1	1.85	142.1	20.2	1.65
FYKKQL		125.4	2.8	0.22	121.4	-0.5	-0.04
GEQ7MG		130.2	7.6	0.61	128.4	6.4	0.53
GJFB9B		125.5	2.9	0.23	127.5	5.6	0.45
GYETAP		118.9	-3.7	-0.30	118.7	-3.3	-0.27
HHKMDF		123.9	1.3	0.11	126.6	4.7	0.38
HV9PXT		122.8	0.2	0.02	116.2	-5.7	-0.47
KEAL6E		114.0	-8.6	-0.69	109.8	-12.1	-0.99
KFDEEZ		126.4	3.7	0.30	125.3	3.4	0.28
LJMNQA		107.2	-15.4	-1.24	106.2	-15.7	-1.29
NLN77G		130.6	8.0	0.64	133.7	11.7	0.96
P9FD23		110.8	-11.8	-0.95	114.3	-7.7	-0.63
PMW9GY		119.6	-3.1	-0.24	112.6	-9.4	-0.77
QJQ663	*	157.4	34.8	2.79	157.6	35.7	2.92
RG3KNK		124.3	1.7	0.14	125.0	3.1	0.25
RVFVC8		114.7	-7.9	-0.63	113.7	-8.2	-0.67
TGGYGR		118.1	-4.5	-0.36	115.0	-7.0	-0.57
UFHQV9		127.2	4.6	0.37	129.2	7.3	0.59
ULJZ32		120.3	-2.3	-0.18	123.9	2.0	0.16
V8HN83		128.6	5.9	0.48	126.7	4.8	0.39
WBC28X		115.8	-6.8	-0.55	115.5	-6.5	-0.53
WJR9WU		122.6	0.0	0.00	126.6	4.6	0.38
XPVCLT		114.8	-7.8	-0.63	114.4	-7.5	-0.62
YFFPX4	*	141.2	18.6	1.49	130.0	8.1	0.66
ZA9DK4		90.6	-32.1	-2.57	90.5	-31.4	-2.57
ZJW8WZ		124.5	1.9	0.15	124.2	2.3	0.19

Summary Statistics	Sample SD91	Sample SD92
Grand Means	122.60 Grams	121.94 Grams
Stnd Dev Btwn Labs	12.47 Grams	12.22 Grams

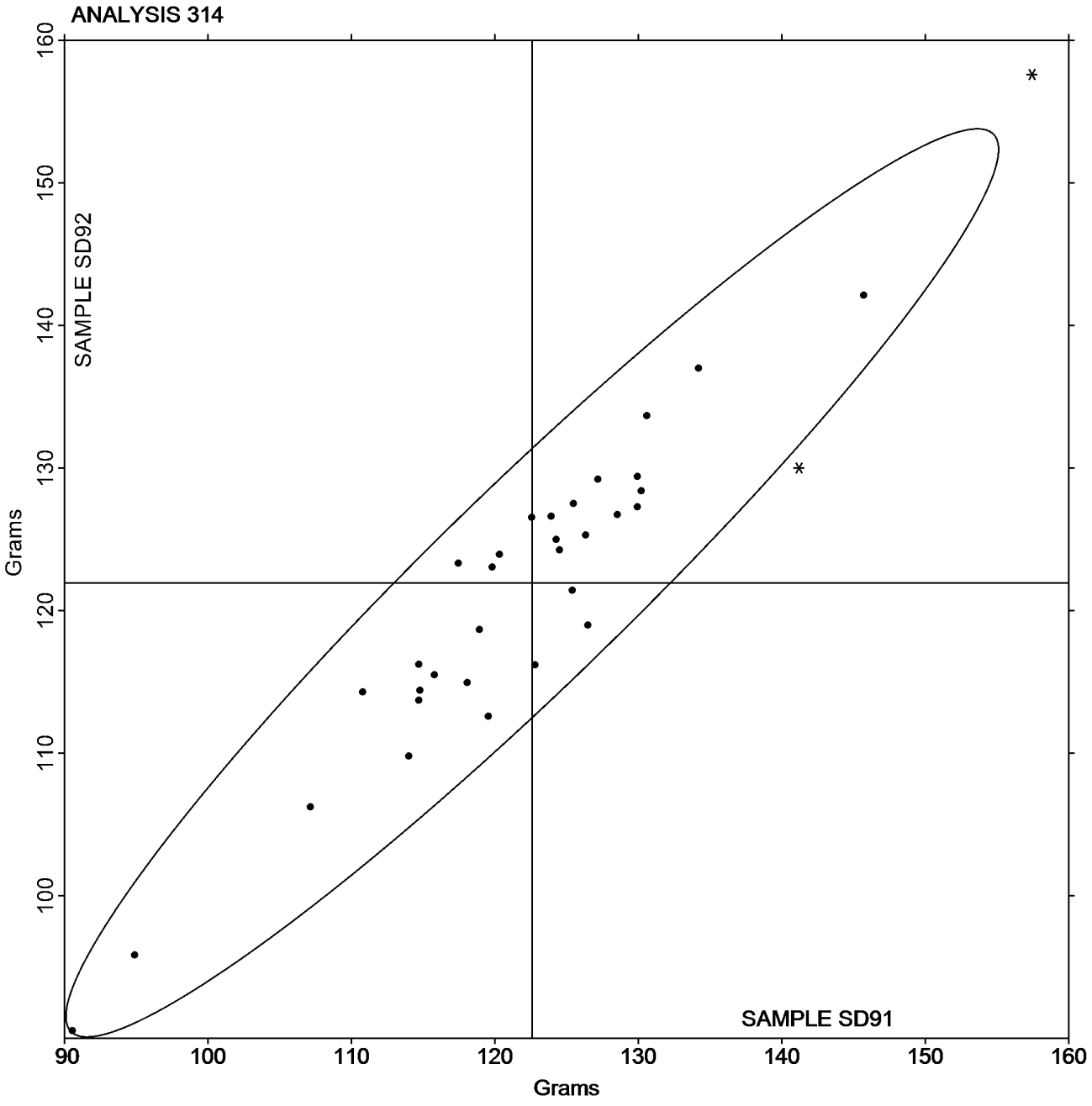
Statistics based on 34 of 35 reporting participants.

Comments on Assigned Data Flags for Test #314

9WZVDF (X) - Extreme Data.

Grand Mean Sample SD91 = 122.60 Grams

Grand Mean Sample SD92 = 121.94 Grams



Paper & Paperboard Interlaboratory Testing Program

Analysis 320

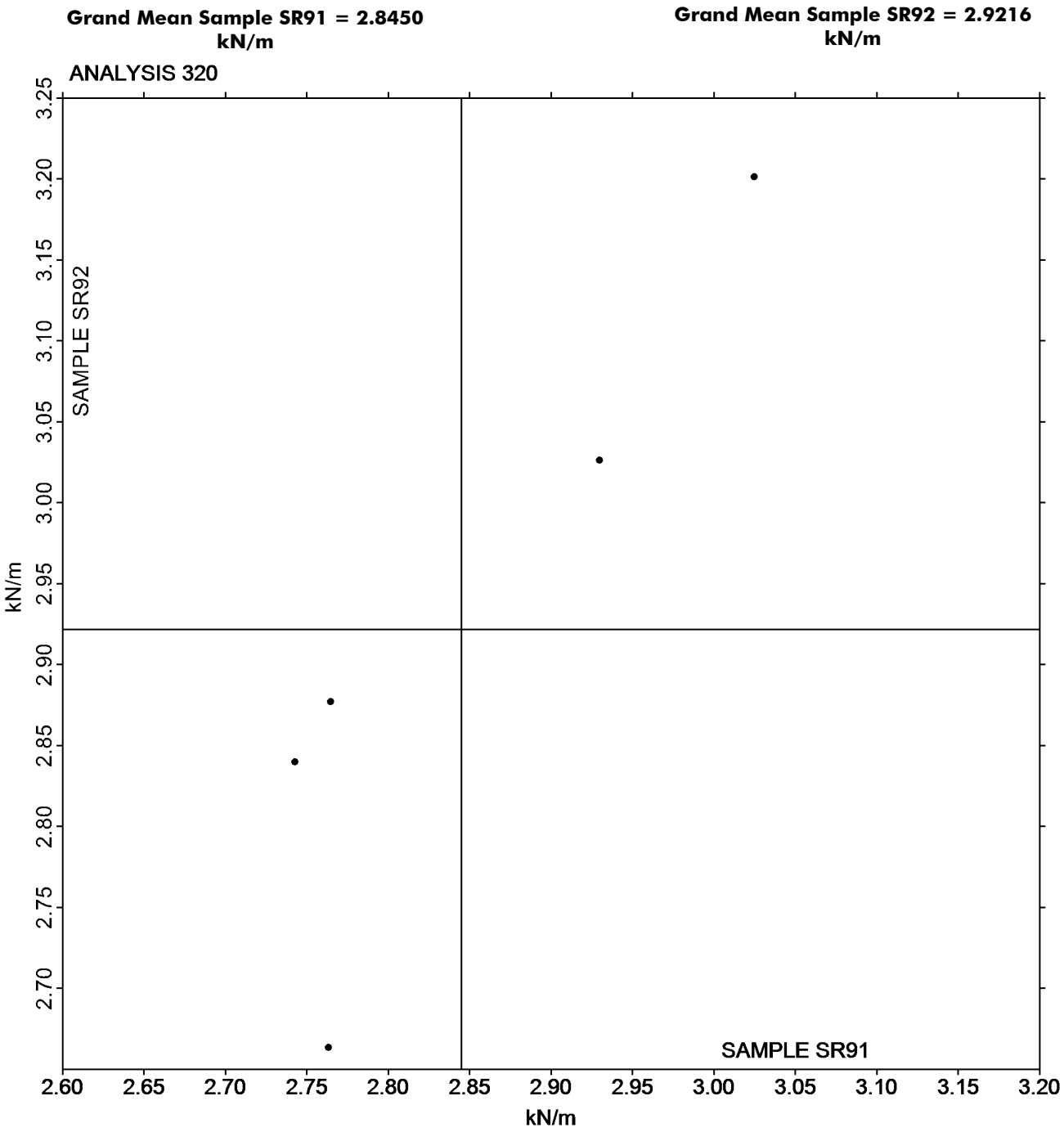
Tensile Breaking Strength - Newsprint

TAPPI Official Test Method T494

WebCode	Data Flag	Sample SR91 Lab Mean	Sample SR91 Diff from Grand Mean	Sample SR91 CPV	Sample SR92 Lab Mean	Sample SR92 Diff from Grand Mean	Sample SR92 CPV
84K49L		2.930	0.085	0.67	3.026	0.105	0.52
AKFFVR		2.763	-0.082	-0.65	2.664	-0.258	-1.27
G9H67J		3.025	0.180	1.43	3.201	0.280	1.38
RVFVC8		2.743	-0.102	-0.81	2.840	-0.082	-0.40
X7XN34		2.765	-0.080	-0.64	2.877	-0.045	-0.22

Summary Statistics	Sample SR91	Sample SR92
Grand Means	2.84 kN/m	2.92 kN/m
Stnd Dev Btwn Labs	0.13 kN/m	0.20 kN/m

Statistics based on 5 of 5 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 321

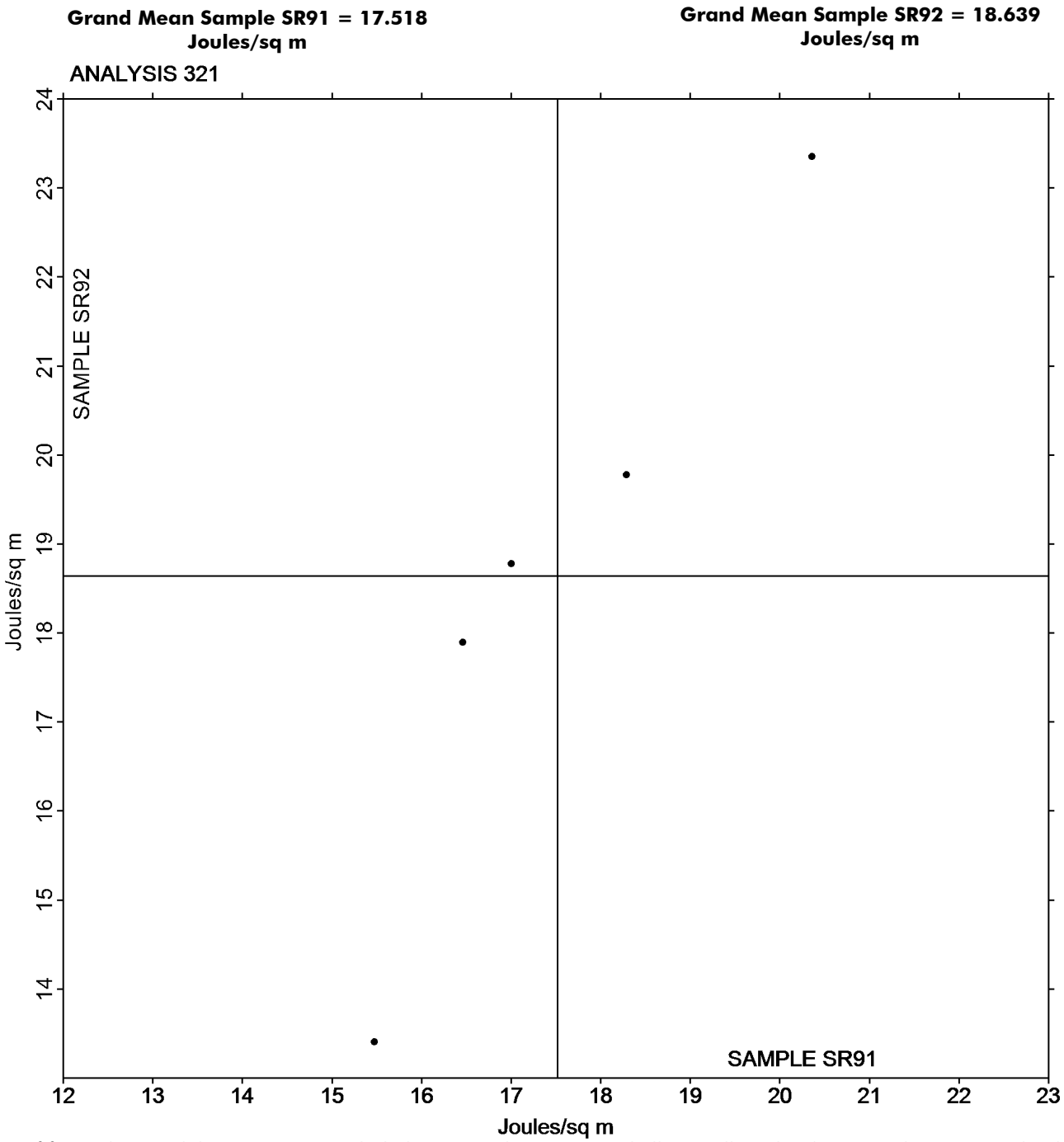
Tensile Energy Absorption - Newsprint

TAPPI Official Test Method T494

WebCode	Data Flag	Sample SR91 Lab Mean	Sample SR91 Diff from Grand Mean	Sample SR91 CPV	Sample SR92 Lab Mean	Sample SR92 Diff from Grand Mean	Sample SR92 CPV
84K49L		17.01	-0.51	-0.27	18.78	0.14	0.04
AKFFVR		15.48	-2.04	-1.08	13.40	-5.24	-1.46
G9H67J		20.36	2.84	1.51	23.35	4.71	1.31
RVFVC8		18.29	0.77	0.41	19.77	1.14	0.32
X7XN34		16.46	-1.06	-0.56	17.89	-0.75	-0.21

Summary Statistics	Sample SR91	Sample SR92
Grand Means	17.52 Joules/sq m	18.64 Joules/sq m
Stnd Dev Btwn Labs	1.88 Joules/sq m	3.59 Joules/sq m

Statistics based on 5 of 5 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 322

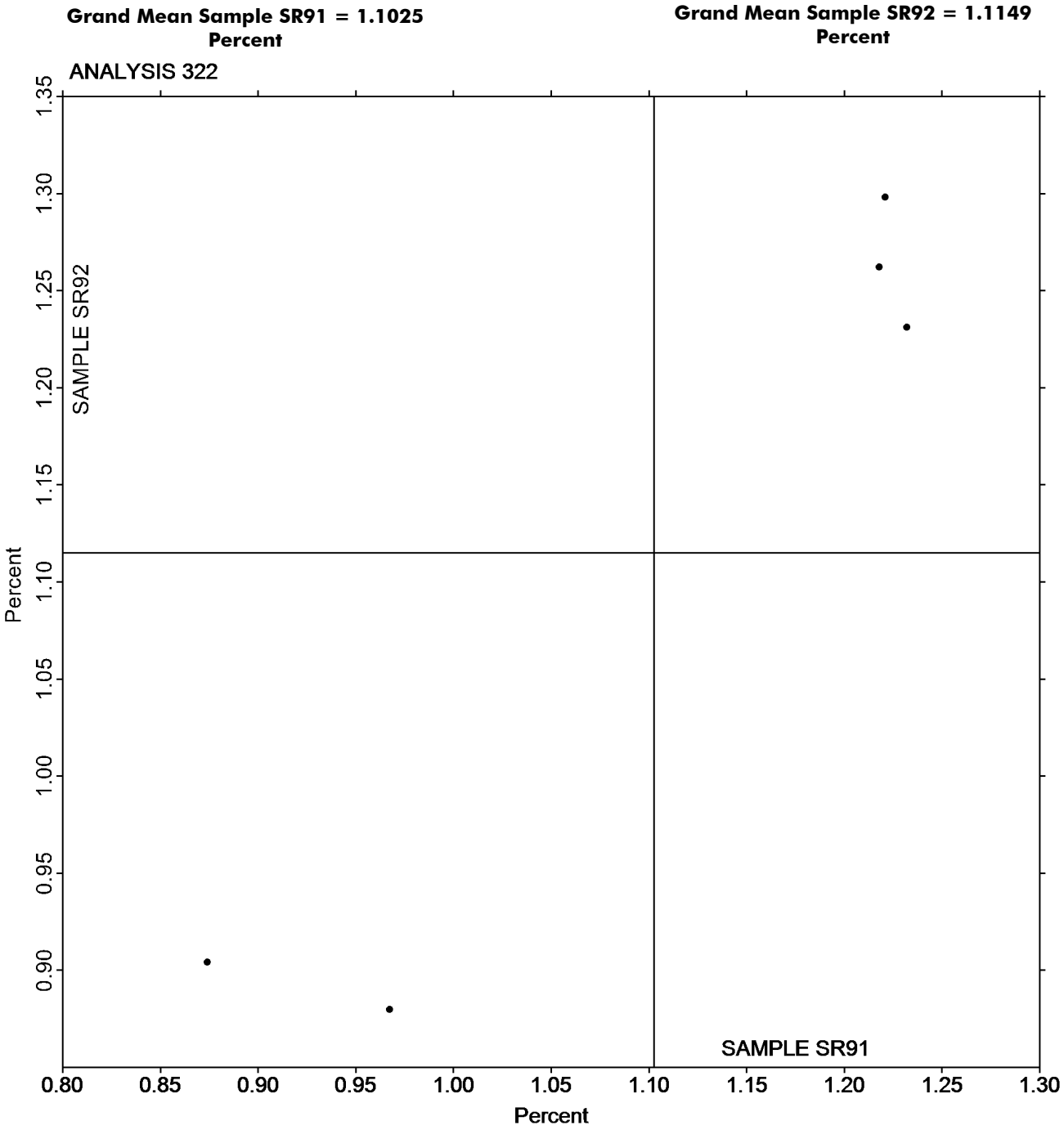
Elongation to Break - Newsprint

TAPPI Official Test Method T494

WebCode	Data Flag	Sample SR91 Lab Mean	Sample SR91 Diff from Grand Mean	Sample SR91 CPV	Sample SR92 Lab Mean	Sample SR92 Diff from Grand Mean	Sample SR92 CPV
84K49L		1.218	0.116	0.68	1.262	0.147	0.72
AKFFVR		0.967	-0.135	-0.80	0.880	-0.235	-1.15
G9H67J		1.221	0.119	0.70	1.298	0.183	0.89
RVFVC8		1.232	0.130	0.77	1.231	0.116	0.57
X7XN34		0.874	-0.228	-1.35	0.904	-0.211	-1.03

Summary Statistics	Sample SR91	Sample SR92
Grand Means	1.10 Percent	1.11 Percent
Stnd Dev Btwn Labs	0.17 Percent	0.21 Percent

Statistics based on 5 of 5 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 325

Tensile Breaking Strength - Printing Papers

TAPPI Official Test Method T494

WebCode	Data Flag	Sample SF91 Lab Mean	Sample SF91 Diff from Grand Mean	Sample SF91 CPV	Sample SF92 Lab Mean	Sample SF92 Diff from Grand Mean	Sample SF92 CPV	Instr Code
4GH2MV		4.309	0.008	0.03	4.363	0.064	0.21	TV
4KXDLW		4.593	0.292	0.98	4.523	0.223	0.75	LF
4RG8PL		4.166	-0.135	-0.45	4.224	-0.075	-0.25	LH
4ZCK23		4.184	-0.117	-0.40	4.275	-0.024	-0.08	LX
67DNEK		4.485	0.184	0.62	4.676	0.376	1.26	TJ
9UQHGT		4.433	0.132	0.44	4.411	0.111	0.37	LI
A7LTQK		4.295	-0.006	-0.02	4.217	-0.082	-0.28	LA
AFKLXQ		4.446	0.145	0.49	4.618	0.318	1.07	LI
AJ647F		4.088	-0.213	-0.72	3.939	-0.360	-1.21	TO
AYYZEL		4.417	0.116	0.39	4.420	0.120	0.40	LE
CGTFRG	*	3.467	-0.834	-2.81	3.569	-0.730	-2.45	IM
CL8LGG		4.498	0.197	0.66	4.544	0.244	0.82	TC
CTMUUY		4.170	-0.131	-0.44	4.210	-0.090	-0.30	LH
DNPUQN		4.073	-0.228	-0.77	4.132	-0.168	-0.56	TF
DT48VG		4.499	0.198	0.67	4.504	0.204	0.69	XX
DV83EK		4.407	0.106	0.36	4.396	0.097	0.32	LA
E7HVHK		4.286	-0.015	-0.05	4.290	-0.010	-0.03	LH
ED2QBE		4.487	0.186	0.63	4.529	0.230	0.77	LI
GQLKMD		4.640	0.339	1.14	4.456	0.156	0.53	LX
HRTM22		4.150	-0.151	-0.51	4.079	-0.221	-0.74	TB
K28TZW		4.725	0.424	1.43	4.817	0.517	1.74	TV
NUV6CC		4.397	0.096	0.32	4.371	0.071	0.24	FP
P37R2R		4.586	0.285	0.96	4.497	0.198	0.66	TO
PDL7VY		3.957	-0.344	-1.16	3.977	-0.323	-1.08	LE
QZV7PB		4.497	0.196	0.66	4.544	0.244	0.82	LX
RHFMKX	*	3.536	-0.765	-2.58	3.590	-0.710	-2.38	TP
TM2RHD		4.110	-0.191	-0.64	3.933	-0.366	-1.23	TO
TXM2FZ		4.384	0.083	0.28	4.326	0.026	0.09	LH
U9WQHG		4.687	0.386	1.30	4.612	0.312	1.05	LA
UBPJG8		4.126	-0.175	-0.59	4.198	-0.102	-0.34	RE
UUEXUB		4.728	0.427	1.44	4.753	0.453	1.52	XX
VA9E8R		4.588	0.287	0.97	4.497	0.198	0.66	VM
VK8K9Z		4.669	0.368	1.24	4.650	0.350	1.18	LB
VZLNWG	X	3.110	-1.191	-4.01	3.075	-1.225	-4.11	XX
W27MEP		4.249	-0.052	-0.18	4.362	0.063	0.21	TO
WBC28X		4.209	-0.092	-0.31	4.145	-0.155	-0.52	LI
WXQVMV		3.660	-0.641	-2.16	3.625	-0.675	-2.27	ID
XPDTT2		4.163	-0.138	-0.46	4.144	-0.156	-0.52	TF
YAEBF9		4.638	0.337	1.13	4.565	0.265	0.89	TF
YBATD4		3.959	-0.342	-1.15	3.977	-0.323	-1.08	LH

Paper & Paperboard Interlaboratory Testing Program

Analysis 325

Tensile Breaking Strength - Printing Papers

TAPPI Official Test Method T494

WebCode	Data Flag	Sample SF91 Lab Mean	Sample SF91 Diff from Grand Mean	Sample SF91 CPV	Sample SF92 Lab Mean	Sample SF92 Diff from Grand Mean	Sample SF92 CPV	Instr Code
ZBL8Z4		4.308	0.007	0.02	4.348	0.049	0.16	XX
ZFXV2Z		4.128	-0.174	-0.58	4.008	-0.291	-0.98	TB
ZKPQMK		4.246	-0.055	-0.19	4.268	-0.032	-0.11	IN

Summary Statistics	Sample SF91	Sample SF92
Grand Means	4.30 kN/m	4.30 kN/m
Stnd Dev Btwn Labs	0.30 kN/m	0.30 kN/m

Statistics based on 42 of 43 reporting participants.

Comments on Assigned Data Flags for Test #325

VZLNWG (X) - Data for both samples are low. Possible Systematic Error.

Analysis Notes:

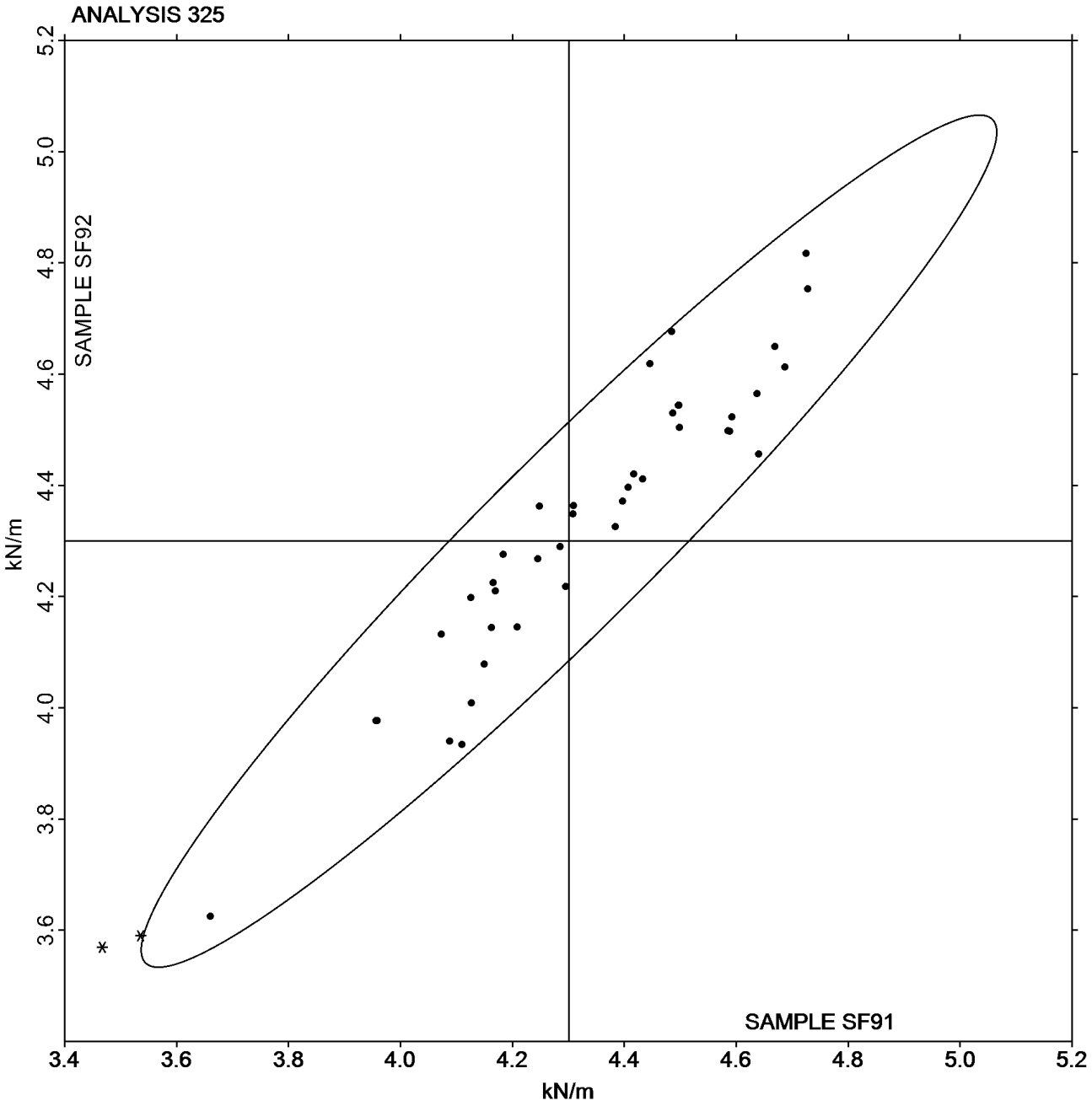
ZFXV2Z - One determination removed from the Lab Mean of Sample SF91 per Grubb's Test at 1% risk (TAPPI 1205).

Key to Instrument Codes Reported by Participants

FP	Frank PTI Universal Tester TS	ID	Instron 4200 Series
IM	Instron 5500 Series	IN	Instron 3340 series
LA	L & W Tensile - Autoline 300	LB	L & W Tensile - Autoline 400
LE	L & W Tensile Tester 066	LF	L & W Tensile/Fracture Toughness Tester SE 064
LH	L & W Alwetron TH1 (Horizontal) SE 060/065F	LI	L & W Tensile Tester SE 062
LX	L & W (model not specified)	RE	Regmed
TB	Thwing-Albert EJA/1000	TC	Thwing-Albert Electro-Hydraulic, Model 30LT
TF	Thwing-Albert EJA Vantage-1	TJ	Thwing-Albert QC II-XS
TO	Thwing-Albert QC-1000	TP	TMI Monitor/Tensile 100 (84-21-01)
TV	Thwing-Albert Vantage NX	VM	Valmet PaperLab (was Kajaani/Robotest)
XX	Instrument make/model not specified by lab		

Grand Mean Sample SF91 = 4.3010 kN/m

Grand Mean Sample SF92 = 4.2996 kN/m



Paper & Paperboard Interlaboratory Testing Program

Analysis 327

Tensile Energy Absorption - Printing Papers

TAPPI Official Test Method T494

WebCode	Data Flag	Sample SF91 Lab Mean	Sample SF91 Diff from Grand Mean	Sample SF91 CPV	Sample SF92 Lab Mean	Sample SF92 Diff from Grand Mean	Sample SF92 CPV	Instr Code
4GH2MV		52.12	7.95	1.29	51.73	7.31	1.16	TV
4KXDLW		51.20	7.03	1.15	50.20	5.77	0.92	LF
4RG8PL		43.43	-0.74	-0.12	42.02	-2.41	-0.38	LH
4ZCK23		43.53	-0.64	-0.10	46.93	2.51	0.40	LX
9UQHGT		39.97	-4.20	-0.68	41.49	-2.93	-0.46	LI
A7LTQK		52.66	8.49	1.38	50.41	5.98	0.95	LA
AFKLXQ		47.34	3.17	0.52	49.21	4.78	0.76	LI
AJ647F		43.42	-0.76	-0.12	40.22	-4.21	-0.67	TO
AYYZEL		44.14	-0.03	-0.01	45.61	1.18	0.19	LE
CGTFRG		29.74	-14.43	-2.35	31.36	-13.06	-2.07	IM
CTMUUY		46.69	2.52	0.41	47.02	2.59	0.41	LH
DT48VG		32.09	-12.08	-1.97	31.46	-12.96	-2.05	XX
DV83EK		33.45	-10.72	-1.75	32.94	-11.49	-1.82	LA
E7HVHK		42.18	-1.99	-0.32	43.15	-1.27	-0.20	LH
ED2QBE		36.05	-8.12	-1.32	37.83	-6.60	-1.05	LX
GQLKMD	X	9.46	-34.71	-5.66	8.95	-35.48	-5.62	LJ
HRTM22		44.66	0.49	0.08	43.43	-0.99	-0.16	TB
K28TZW		42.27	-1.90	-0.31	45.60	1.17	0.19	TV
NUV6CC		53.84	9.67	1.58	55.08	10.65	1.69	FP
QZV7PB		44.18	0.01	0.00	47.80	3.37	0.53	LX
RHFMKX		43.18	-0.99	-0.16	40.99	-3.43	-0.54	TP
TM2RHD		42.91	-1.27	-0.21	41.15	-3.27	-0.52	TO
TXM2FZ		47.67	3.49	0.57	46.85	2.42	0.38	LH
U9WQHG		49.69	5.52	0.90	48.80	4.37	0.69	LA
UBPJG8		38.73	-5.45	-0.89	40.74	-3.69	-0.58	RE
VK8K9Z		47.19	3.02	0.49	48.61	4.19	0.66	LB
VZLNWG		58.43	14.26	2.32	60.06	15.63	2.48	XX
W27MEP		44.07	-0.10	-0.02	48.74	4.32	0.68	TO
WBC28X		42.42	-1.75	-0.28	40.85	-3.58	-0.57	LI
WXQVMV		36.16	-8.01	-1.30	34.85	-9.57	-1.52	ID
XPDTT2		49.49	5.32	0.87	49.32	4.89	0.78	TF
YAEBF9		45.00	0.83	0.14	41.89	-2.54	-0.40	TF
YBATD4		45.24	1.07	0.17	43.87	-0.56	-0.09	LH
ZBL8Z4		43.49	-0.68	-0.11	44.29	-0.13	-0.02	XX
ZKPQMK		45.18	1.01	0.16	45.95	1.52	0.24	IN

Paper & Paperboard Interlaboratory Testing Program

Analysis 327

Tensile Energy Absorption - Printing Papers

TAPPI Official Test Method T494

Summary Statistics	Sample SF91	Sample SF92
Grand Means	44.17 Joules/sq m	44.43 Joules/sq m
Stnd Dev Btwn Labs	6.14 Joules/sq m	6.31 Joules/sq m

Statistics based on 34 of 35 reporting participants.

Comments on Assigned Data Flags for Test #327

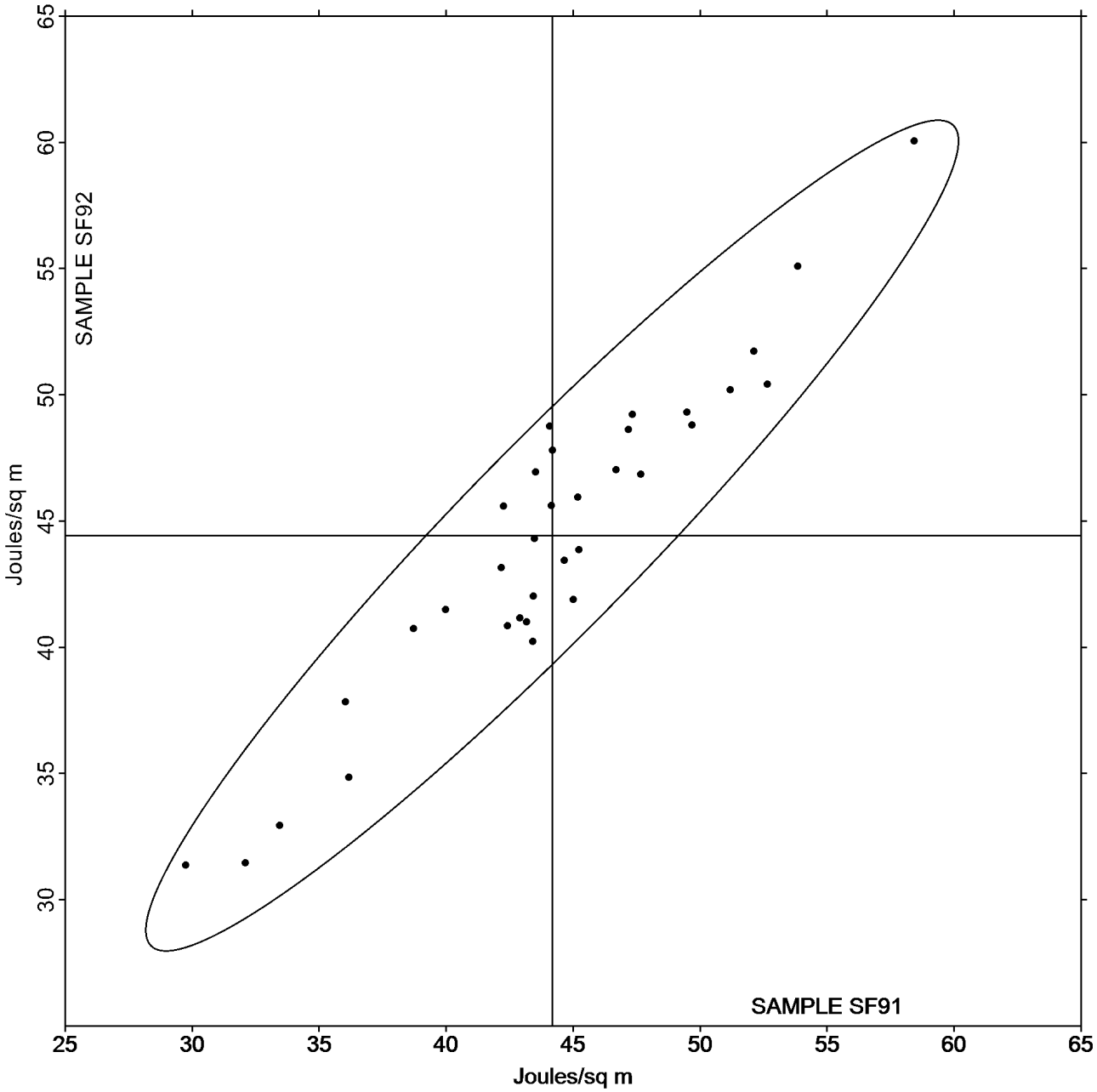
GQLKMD (X) - Data for both samples are low. Possible Systematic Error.

Key to Instrument Codes Reported by Participants

FP	Frank PTI Universal Tester TS	ID	Instron 4200 Series
IM	Instron 5500 Series	IN	Instron 3340 series
LA	L & W Tensile - Autoline 300	LB	L & W Tensile - Autoline 400
LE	L & W Tensile Tester 066	LF	L & W Tensile/Fracture Toughness Tester SE 064
LH	L & W Alwetron TH1 (Horizontal) SE 060/065F	LI	L & W Tensile Tester SE 062
LJ	L & W Tensile Tester SE 063	LX	L & W (model not specified)
RE	Regmed	TB	Thwing-Albert EJA/1000
TF	Thwing-Albert EJA Vantage-1	TO	Thwing-Albert QC-1000
TP	TMI Monitor/Tensile 100 (84-21-01)	TV	Thwing-Albert Vantage NX
XX	Instrument make/model not specified by lab		

Grand Mean Sample SF91 = 44.171 Joules/sq m

Grand Mean Sample SF92 = 44.425 Joules/sq m



WebCode	Data Flag	Sample SF91 Lab Mean	Sample SF91 Diff from Grand Mean	Sample SF91 CPV	Sample SF92 Lab Mean	Sample SF92 Diff from Grand Mean	Sample SF92 CPV	Instr Code
4GH2MV	*	2.058	0.468	3.00	2.019	0.421	2.79	TV
4KXDLW		1.727	0.137	0.88	1.694	0.096	0.64	LF
4RG8PL		1.599	0.009	0.06	1.547	-0.051	-0.34	LH
4ZCK23		1.583	-0.007	-0.05	1.653	0.055	0.37	LX
9UQHGT		1.424	-0.166	-1.07	1.483	-0.115	-0.76	LI
A7LTQK		1.581	-0.009	-0.06	1.548	-0.050	-0.33	LA
AFKLXQ		1.533	-0.057	-0.37	1.545	-0.053	-0.35	LI
AJ647F		1.551	-0.039	-0.25	1.485	-0.113	-0.75	TX
AYYZEL		1.537	-0.053	-0.34	1.579	-0.019	-0.13	LE
CGTFRG		1.415	-0.176	-1.13	1.456	-0.142	-0.94	IM
CTMUUY		1.700	0.110	0.70	1.730	0.132	0.88	LH
DNPUQN		1.502	-0.088	-0.57	1.544	-0.054	-0.36	TF
DT48VG		1.392	-0.198	-1.27	1.397	-0.201	-1.33	XX
DV83EK		1.440	-0.150	-0.97	1.435	-0.163	-1.08	LA
E7HVHK		1.566	-0.024	-0.16	1.546	-0.052	-0.34	LH
ED2QBE		1.316	-0.274	-1.76	1.361	-0.237	-1.57	LI
GQLKMD		1.519	-0.071	-0.46	1.435	-0.163	-1.08	LJ
HRTM22		1.705	0.115	0.74	1.687	0.089	0.59	TB
K28TZW		1.486	-0.104	-0.67	1.552	-0.046	-0.30	TV
NUV6CC	*	1.878	0.288	1.85	1.951	0.353	2.34	FP
QZV7PB		1.521	-0.069	-0.45	1.616	0.018	0.12	LX
RHFMKX	X	2.528	0.937	6.02	2.018	0.420	2.78	TP
TM2RHD		1.639	0.049	0.31	1.609	0.011	0.07	TO
TXM2FZ		1.656	0.066	0.42	1.645	0.047	0.31	LH
U9WQHG		1.500	-0.090	-0.58	1.498	-0.100	-0.66	LA
UBPJG8		1.593	0.002	0.01	1.583	-0.014	-0.10	RE
VA9E8R		1.700	0.110	0.70	1.720	0.122	0.81	VM
VK8K9Z		1.447	-0.144	-0.92	1.488	-0.110	-0.73	LB
VZLNWG		1.627	0.037	0.24	1.695	0.097	0.64	XX
W27MEP		1.505	-0.085	-0.55	1.604	0.006	0.04	TO
WBC28X		1.555	-0.035	-0.23	1.525	-0.073	-0.48	LI
WXQVMV		1.512	-0.079	-0.51	1.480	-0.118	-0.78	ID
XPDTT2	*	2.005	0.415	2.66	1.991	0.393	2.60	TF
YAEBF9		1.625	0.035	0.22	1.556	-0.042	-0.28	TF
YBATD4		1.711	0.121	0.77	1.663	0.065	0.43	LH
ZBL8Z4		1.481	-0.109	-0.70	1.535	-0.063	-0.42	XX
ZFXV2Z		1.509	-0.081	-0.52	1.503	-0.095	-0.63	TF
ZKPQMK		1.748	0.158	1.01	1.764	0.166	1.10	IN

Paper & Paperboard Interlaboratory Testing Program

Analysis 328

Elongation to Break - Printing Papers

TAPPI Official Test Method T494

Summary Statistics	Sample SF91	Sample SF92
Grand Means	1.59 Percent	1.60 Percent
Stnd Dev Btwn Labs	0.16 Percent	0.15 Percent

Statistics based on 37 of 38 reporting participants.

Comments on Assigned Data Flags for Test #328

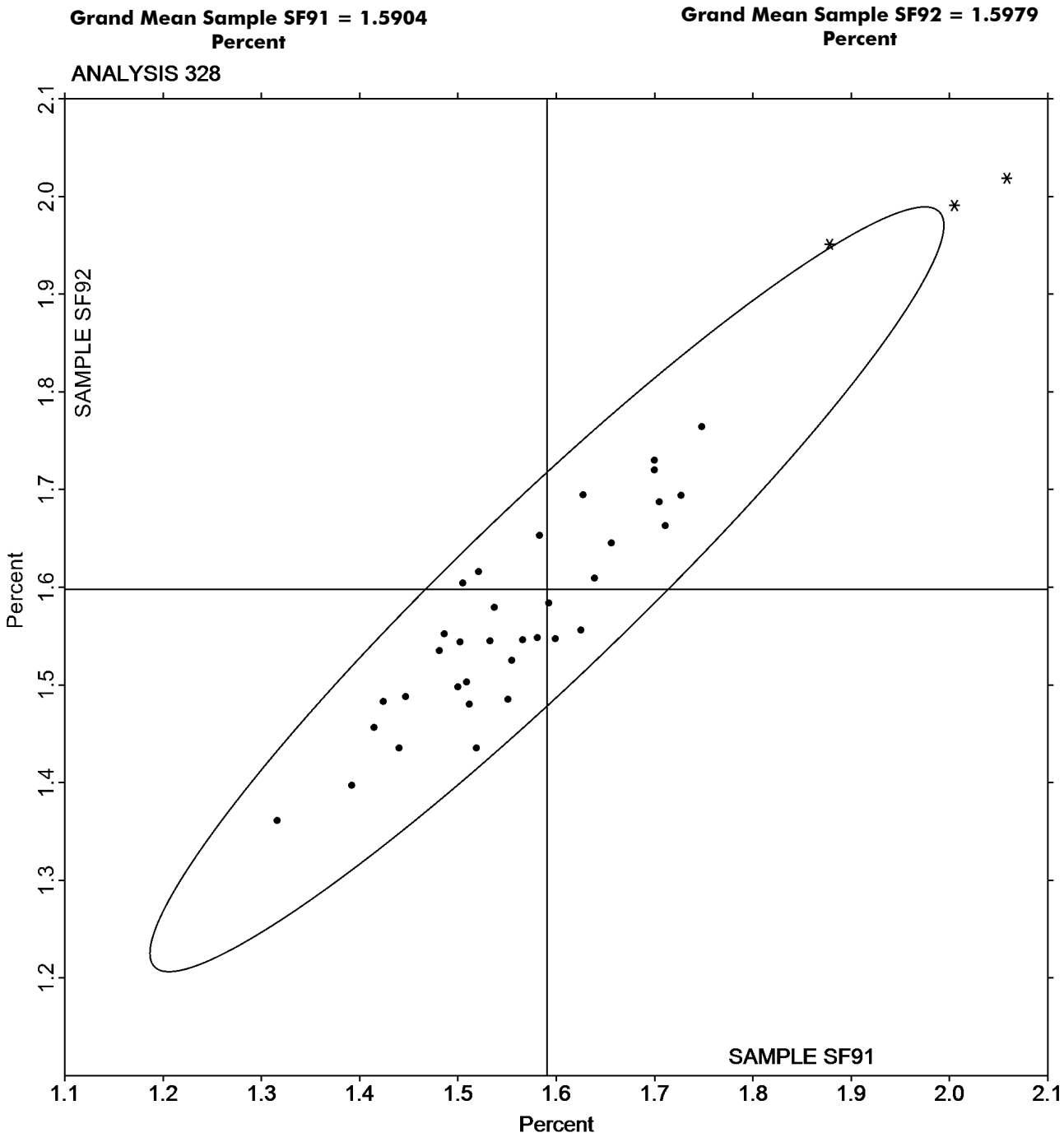
RHFMKX (X) - Extreme Data.

Analysis Notes:

VK8K9Z - One determination removed from the Lab Mean of Sample SF91 per Grubb's Test at 1% risk (TAPPI 1205).

Key to Instrument Codes Reported by Participants

FP	Frank PTI Universal Tester TS	ID	Instron 4200 Series
IM	Instron 5500 Series	IN	Instron 3340 Series
LA	L & W Tensile - Autoline 300	LB	L & W Tensile - Autoline 400
LE	L & W Tensile Tester 066	LF	L & W Tensile/Fracture Toughness Tester SE 064
LH	L & W Alwetron TH1 (Horizontal) SE 060/065F	LI	L & W Tensile Tester SE 062
LJ	L & W Tensile Tester SE 063	LX	L & W (model not specified)
RE	Regmed	TB	Thwing-Albert EJA/1000
TF	Thwing-Albert EJA Vantage-1	TO	Thwing-Albert QC-1000
TP	TMI Monitor/Tensile 100 (84-21-01)	TV	Thwing-Albert Vantage NX
TX	Thwing-Albert (model not specified)	VM	Valmet PaperLab (was Kajaani/Robotest)
XX	Instrument make/model not specified by lab		



Paper & Paperboard Interlaboratory Testing Program

Analysis 330

Tensile Breaking Strength - Packaging Papers

TAPPI Official Test Method T494

WebCode	Data Flag	Sample SE91 Lab Mean	Sample SE91 Diff from Grand Mean	Sample SE91 CPV	Sample SE92 Lab Mean	Sample SE92 Diff from Grand Mean	Sample SE92 CPV	Instr Code
23N6KQ		10.07	-0.58	-0.68	10.29	-0.37	-0.44	LE
3CNMMZ		10.48	-0.16	-0.19	10.37	-0.28	-0.34	TH
42PCRX		12.50	1.85	2.17	12.29	1.63	1.92	LA
78PAFT		12.67	2.02	2.36	12.51	1.85	2.18	LA
8CAG2B		10.46	-0.18	-0.22	10.93	0.27	0.32	TR
A7LTQK		10.31	-0.34	-0.40	10.46	-0.20	-0.24	LA
A8R92X	X	10.51	-0.14	-0.16	13.01	2.35	2.78	IK
DVPHX9		10.50	-0.14	-0.17	10.45	-0.21	-0.24	IM
E7HVHK		11.01	0.36	0.42	10.91	0.26	0.30	LH
ENJZNT		9.01	-1.64	-1.92	9.10	-1.56	-1.84	MA
EXU3AU		10.50	-0.15	-0.17	10.33	-0.32	-0.38	LE
FVKAVL		10.96	0.32	0.37	10.80	0.15	0.17	ID
FYKKQL	*	9.84	-0.80	-0.94	9.37	-1.29	-1.53	IF
G8QR3F		10.79	0.14	0.17	11.07	0.41	0.48	IF
GEQ7MG		9.52	-1.12	-1.31	9.72	-0.94	-1.11	LH
GJFB9B		10.22	-0.43	-0.50	10.31	-0.34	-0.41	TK
GYETAP	*	8.70	-1.95	-2.28	8.33	-2.33	-2.75	TP
H4M4Q3		10.14	-0.51	-0.59	10.16	-0.50	-0.59	XX
HHKMDF		9.80	-0.85	-0.99	9.89	-0.77	-0.91	XX
HV9PXT		10.49	-0.16	-0.18	10.56	-0.10	-0.12	LA
K73CTZ		10.45	-0.20	-0.23	10.63	-0.02	-0.03	IM
KEAL6E		10.05	-0.60	-0.70	9.99	-0.67	-0.79	TX
KEYJJF		11.14	0.50	0.58	11.07	0.41	0.49	DM
KFDEEZ		10.44	-0.20	-0.24	10.52	-0.13	-0.16	IF
L322LL		10.73	0.08	0.09	10.72	0.06	0.07	TB
MZQFDB		12.36	1.72	2.01	12.05	1.39	1.64	TH
NLN77G		12.63	1.98	2.32	12.56	1.91	2.25	LA
P9FD23	X	6.57	-4.07	-4.77	6.61	-4.05	-4.78	LE
PKQHY6		11.32	0.67	0.79	11.24	0.58	0.69	LE
PMW9GY		10.24	-0.40	-0.47	10.69	0.04	0.04	IM
RG3KNK		10.56	-0.09	-0.10	10.61	-0.04	-0.05	LE
T3CBF6	X	10.88	0.23	0.27	11.67	1.01	1.19	TR
TGGYGR		11.58	0.94	1.10	11.67	1.01	1.19	TO
U2YXC9		11.06	0.42	0.49	11.48	0.82	0.97	LI
UFHQV9		11.38	0.73	0.86	11.39	0.74	0.87	LX
ULJZ32		10.46	-0.18	-0.21	10.60	-0.06	-0.07	LE
VMD6Z8		9.88	-0.77	-0.90	9.70	-0.96	-1.13	TH
WBC28X		10.47	-0.17	-0.20	10.46	-0.19	-0.23	LW
WJR9WU		10.51	-0.14	-0.16	10.52	-0.14	-0.16	LE
XPVCLT		10.64	0.00	-0.01	10.54	-0.12	-0.14	TA

Paper & Paperboard Interlaboratory Testing Program

Analysis 330

Tensile Breaking Strength - Packaging Papers

TAPPI Official Test Method T494

WebCode	Data Flag	Sample SE91 Lab Mean	Sample SE91 Diff from Grand Mean	Sample SE91 CPV	Sample SE92 Lab Mean	Sample SE92 Diff from Grand Mean	Sample SE92 CPV	Instr Code
Y6M4XZ		9.96	-0.69	-0.81	10.02	-0.63	-0.75	TT
YAEBF9		10.69	0.04	0.05	10.59	-0.07	-0.08	TO
YFFPX4		11.21	0.56	0.66	11.22	0.56	0.66	IF
ZA9DK4		10.77	0.12	0.14	10.83	0.17	0.20	IM

Summary Statistics	Sample SE91	Sample SE92
Grand Means	10.65 kN/m	10.66 kN/m
Stnd Dev Btwn Labs	0.85 kN/m	0.85 kN/m

Statistics based on 41 of 44 reporting participants.

Comments on Assigned Data Flags for Test #330

P9FD23 (X) - Data for both samples are low. Possible Systematic Error.

T3CBF6 (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample SE91.

A8R92X (X) - Data for sample SE92 are high. Inconsistent within the determinations of sample SE91.

Analysis Notes:

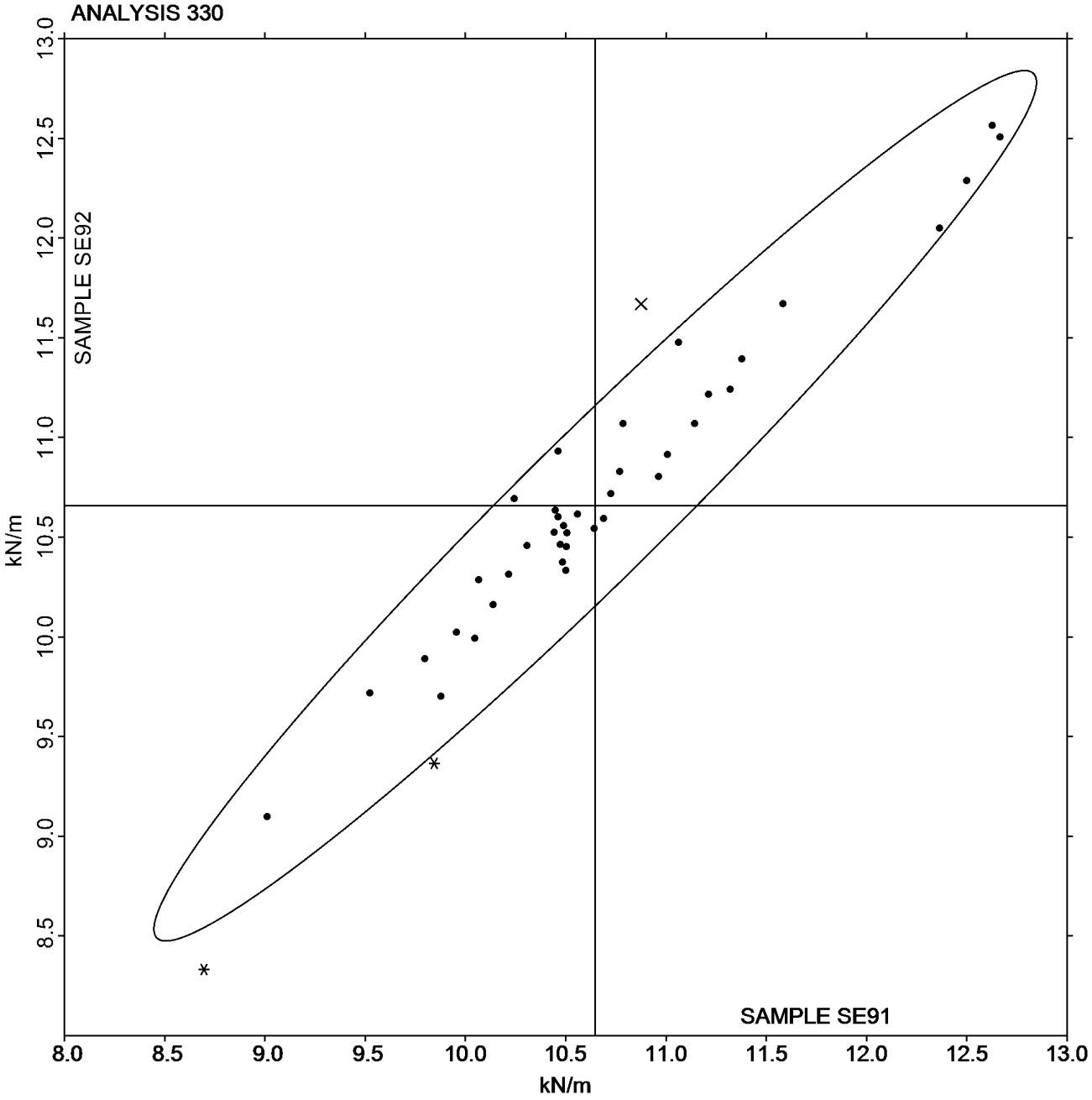
HHKMDF - Data appear to be reported as lb/inch, not kN/m as indicated on data entry form. CTS will not correct the Units going forward.

Key to Instrument Codes Reported by Participants

DM	IDM MTC-100 Tensile Tester	ID	Instron 4200 Series
IF	Instron 3340 Series	IK	Instron 4400 Series
IM	Instron 5500 Series	LA	L & W Autoline
LE	L & W Tensile Tester 066	LH	L & W Alwetron TH1 (Horizontal) SE 060
LI	LLoyds Instruments	LW	L & W Tensile Tester SE062
LX	L & W (model not specified)	MA	Mark-10 ESM301L
TA	Thwing-Albert Tensile Tester	TB	Thwing-Albert EJA/1000
TH	Thwing-Albert QC-3A	TK	Thwing-Albert Model 37-4
TO	Thwing-Albert QC-1000	TP	TMI Monitor/Tensile 100 (84-21-01)
TR	TMI Horizontal Tensile Tester	TT	Tinius Olsen Model MHT
TX	Thwing-Albert (model not specified)	XX	Instrument make/model not specified by lab

Grand Mean Sample SE91 = 10.647 kN/m

Grand Mean Sample SE92 = 10.658 kN/m



Paper & Paperboard Interlaboratory Testing Program

Analysis 331

Tensile Energy Absorption - Packaging Papers

TAPPI Official Test Method T494

WebCode	Data Flag	Sample SE91 Lab Mean	Sample SE91 Diff from Grand Mean	Sample SE91 CPV	Sample SE92 Lab Mean	Sample SE92 Diff from Grand Mean	Sample SE92 CPV	Instr Code
23N6KQ		168.6	-16.4	-0.66	176.3	-11.2	-0.48	LE
3CNMMZ		239.0	54.0	2.18	228.2	40.7	1.73	TH
42PCRX		188.8	3.8	0.15	185.4	-2.2	-0.09	LA
78PAFT		190.4	5.4	0.22	188.6	1.0	0.04	LA
8CAG2B		151.9	-33.1	-1.33	168.5	-19.1	-0.81	TR
A7LTQK		188.0	3.1	0.12	199.3	11.8	0.50	LA
A8R92X	X	104.9	-80.1	-3.23	213.7	26.1	1.12	XX
DVPHX9		189.1	4.1	0.17	180.8	-6.7	-0.29	IM
E7HVHK		174.1	-10.8	-0.44	172.5	-15.0	-0.64	LH
EXU3AU		191.5	6.5	0.26	194.9	7.4	0.32	LE
G8QR3F		201.6	16.6	0.67	216.4	28.8	1.23	IF
GEQ7MG		160.2	-24.8	-1.00	168.3	-19.3	-0.82	LH
GJFB9B		191.1	6.1	0.25	200.3	12.8	0.55	TK
GYETAP		136.1	-48.9	-1.97	142.4	-45.1	-1.92	TP
H4M4Q3		189.5	4.5	0.18	188.5	1.0	0.04	XX
HHKMDF		162.1	-22.8	-0.92	164.9	-22.7	-0.97	XX
HV9PXT		205.8	20.8	0.84	212.3	24.8	1.06	LA
K73CTZ		178.6	-6.3	-0.25	187.7	0.2	0.01	IM
KEAL6E		192.0	7.1	0.28	191.0	3.5	0.15	TX
KEYJJF		240.6	55.6	2.24	234.6	47.1	2.01	DM
KFDEEZ		186.8	1.9	0.08	189.1	1.6	0.07	IF
L322LL		199.9	15.0	0.60	206.3	18.8	0.80	TB
NLN77G		200.0	15.0	0.61	197.7	10.2	0.44	LA
P9FD23	*	109.4	-75.6	-3.05	111.0	-76.5	-3.26	LE
PKQHY6		208.5	23.5	0.95	203.8	16.3	0.69	LE
PMW9GY	*	193.3	8.3	0.33	216.8	29.2	1.25	IM
RG3KNK		169.3	-15.7	-0.63	179.1	-8.4	-0.36	LE
T3CBF6	X	103.3	-81.7	-3.29	81.5	-106.0	-4.52	TR
TGGYGR	X	169.7	-15.3	-0.62	209.8	22.3	0.95	TO
UFHQV9		209.9	24.9	1.00	211.1	23.6	1.01	LX
ULJZ32		175.7	-9.3	-0.37	182.7	-4.8	-0.21	LE
VMD6Z8		169.3	-15.7	-0.63	172.8	-14.7	-0.63	TH
WBC28X		177.6	-7.4	-0.30	176.1	-11.4	-0.48	LW
WJR9WU		175.6	-9.4	-0.38	174.3	-13.3	-0.57	LE
Y6M4XZ	X	157.3	-27.6	-1.11	301.4	113.9	4.86	TT
YAEBF9		198.9	13.9	0.56	192.6	5.1	0.22	TO
YFFPX4		189.3	4.4	0.18	176.3	-11.2	-0.48	IN
ZA9DK4		186.5	1.5	0.06	184.8	-2.7	-0.11	IM

Paper & Paperboard Interlaboratory Testing Program

Analysis 331

Tensile Energy Absorption - Packaging Papers

TAPPI Official Test Method T494

Summary Statistics	Sample SE91	Sample SE92
Grand Means	184.97 Joules/sq m	187.51 Joules/sq m
Stnd Dev Btwn Labs	24.82 Joules/sq m	23.45 Joules/sq m

Statistics based on 34 of 38 reporting participants.

Comments on Assigned Data Flags for Test #331

TGGYGR (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample SE91.

T3CBF6 (X) - Data for both samples are low. Possible Systematic Error.

Y6M4XZ (X) - Data for sample SE92 are high. Inconsistent within the determinations of sample SE92.

A8R92X (X) - Data for sample SE91 are low.

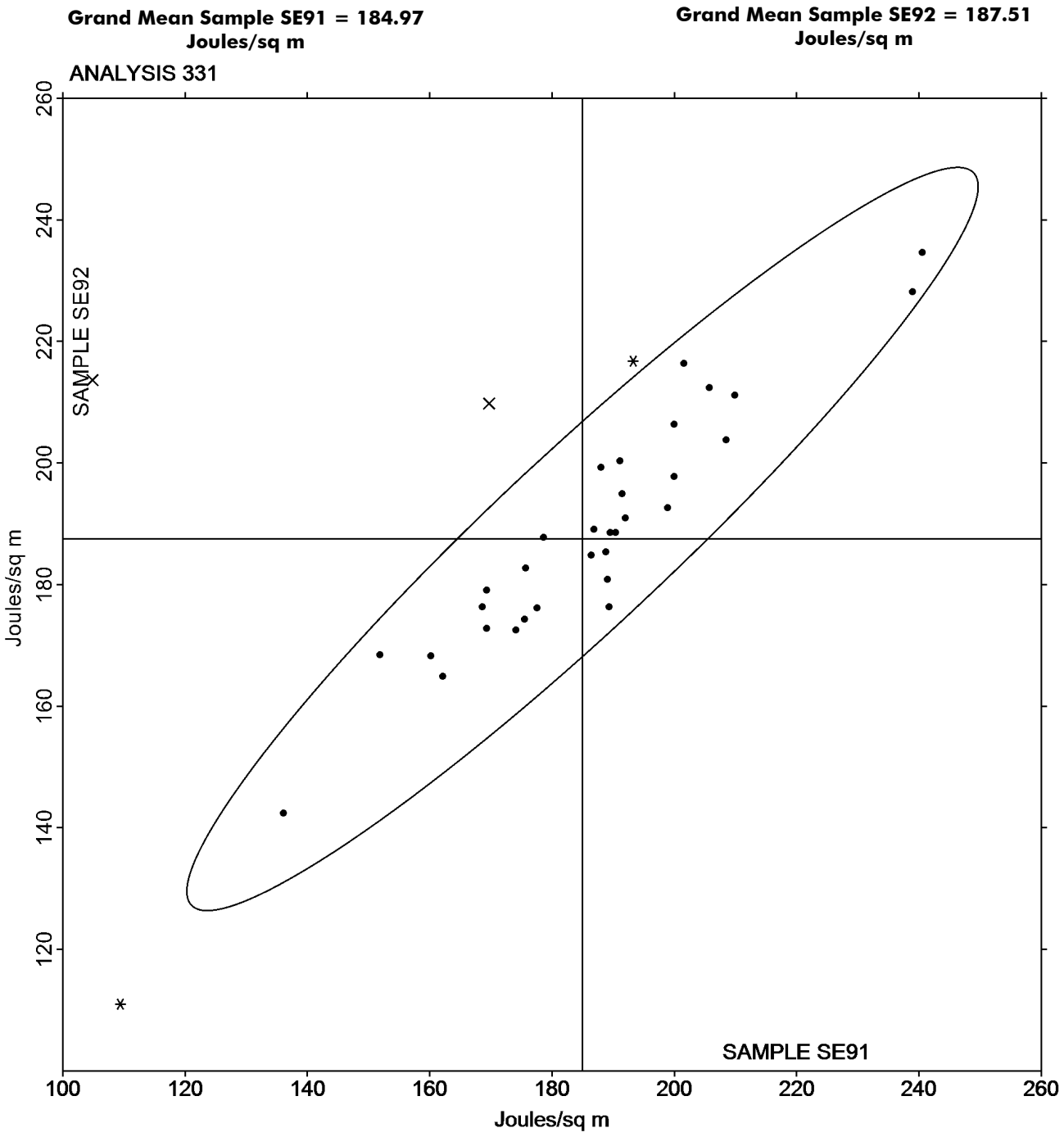
Analysis Notes:

GYETAP - Data appear to be reported as J/sq m, not kg-m/sq m as indicated on data entry form. CTS will not correct the Units going forward.

HHKMDF - Data appear to be reported as ft-lb/sq ft, not J/sq m as indicated on data entry form. CTS will not correct the Units going forward.

Key to Instrument Codes Reported by Participants

DM	IDM MTC-100 Tensile Tester	IF	Instron 3340 Series
IM	Instron 5500 Series	IN	Instron 3360 Series
LA	L & W Autoline	LE	L & W Tensile Tester 066
LH	L & W Alwetron TH1 (Horizontal) SE 060	LW	L & W Tensile Tester SE062
LX	L & W (model not specified)	TB	Thwing-Albert EJA/1000
TH	Thwing-Albert QC-3A	TK	Thwing-Albert Model 37-4
TO	Thwing-Albert QC-1000	TP	TMI Monitor/Tensile 100 (84-21-01)
TR	TMI Horizontal Tensile Tester	TT	Tinius Olsen Model MHT
TX	Thwing-Albert (model not specified)	XX	Instrument make/model not specified by lab



Paper & Paperboard Interlaboratory Testing Program

Analysis 332

Elongation to Break - Packaging Papers

TAPPI Official Test Method T494

WebCode	Data Flag	Sample SE91 Lab Mean	Sample SE91 Diff from Grand Mean	Sample SE91 CPV	Sample SE92 Lab Mean	Sample SE92 Diff from Grand Mean	Sample SE92 CPV	Instr Code
23N6KQ		2.459	-0.209	-0.64	2.508	-0.177	-0.52	LE
3CNMMZ	*	3.520	0.852	2.62	3.446	0.761	2.26	TH
42PCRX	*	3.517	0.849	2.61	3.511	0.826	2.45	LA
78PAFT		2.168	-0.500	-1.54	2.165	-0.520	-1.54	LA
8CAG2B		2.211	-0.457	-1.40	2.325	-0.360	-1.07	TR
A7LTQK		2.280	-0.388	-1.19	2.375	-0.310	-0.92	LA
A8R92X	X	1.742	-0.926	-2.85	2.420	-0.265	-0.78	XX
DVPHX9		2.863	0.195	0.60	2.775	0.090	0.27	IM
E7HVHK		2.340	-0.328	-1.01	2.353	-0.332	-0.98	LH
EXU3AU		2.686	0.018	0.05	2.740	0.055	0.16	LE
FVKAVL		2.676	0.008	0.02	2.562	-0.123	-0.36	ID
G8QR3F		3.029	0.361	1.11	3.081	0.396	1.17	IF
GEQ7MG		2.450	-0.218	-0.67	2.512	-0.173	-0.51	LH
GJFB9B		2.758	0.090	0.28	2.864	0.179	0.53	TK
GYETAP	*	2.836	0.168	0.51	3.105	0.420	1.25	TP
H4M4Q3		2.802	0.134	0.41	2.783	0.098	0.29	XX
HHKMDF		2.350	-0.318	-0.98	2.217	-0.468	-1.39	XX
HV9PXT		3.199	0.531	1.63	3.301	0.616	1.83	LA
K73CTZ		2.506	-0.162	-0.50	2.584	-0.101	-0.30	IM
KEAL6E		2.838	0.170	0.52	2.863	0.178	0.53	TX
KEYJJF		3.243	0.575	1.76	3.209	0.524	1.55	DM
KFDEEZ		2.657	-0.011	-0.04	2.661	-0.024	-0.07	IF
L322LL		2.754	0.086	0.26	2.837	0.152	0.45	TB
NLN77G		2.172	-0.496	-1.52	2.176	-0.509	-1.51	LA
P9FD23		2.417	-0.251	-0.77	2.440	-0.245	-0.72	LE
PKQHY6		2.695	0.027	0.08	2.665	-0.020	-0.06	LE
PMW9GY		2.781	0.113	0.35	3.007	0.323	0.96	IM
RG3KNK		2.579	-0.089	-0.27	2.443	-0.242	-0.72	LE
T3CBF6	X	1.442	-1.227	-3.77	1.584	-1.100	-3.26	TR
TGGYGR		2.738	0.070	0.21	2.755	0.070	0.21	TO
UFHQV9		2.657	-0.011	-0.04	2.670	-0.015	-0.04	LX
ULJZ32		2.426	-0.242	-0.74	2.479	-0.206	-0.61	LE
VMD6Z8		2.600	-0.068	-0.21	2.680	-0.005	-0.01	TH
WBC28X		2.467	-0.201	-0.62	2.449	-0.236	-0.70	LW
WJR9WU		2.450	-0.218	-0.67	2.437	-0.248	-0.73	LE
XPVCLT		2.621	-0.047	-0.15	2.648	-0.037	-0.11	TA
Y6M4XZ	X	2.529	-0.139	-0.43	4.804	2.119	6.28	TT
YAEBF9		2.802	0.134	0.41	2.742	0.057	0.17	TO
YFFPX4		2.444	-0.224	-0.69	2.261	-0.424	-1.26	IN
ZA9DK4		2.741	0.073	0.22	2.700	0.015	0.05	IM

Summary Statistics	Sample SE91	Sample SE92
Grand Means	2.67 Percent	2.68 Percent
Stnd Dev Btwn Labs	0.33 Percent	0.34 Percent

Statistics based on 37 of 40 reporting participants.

Comments on Assigned Data Flags for Test #332

T3CBF6 (X) - Data for both samples are low. Possible Systematic Error.

Y6M4XZ (X) - Extreme Data for Sample SE92.

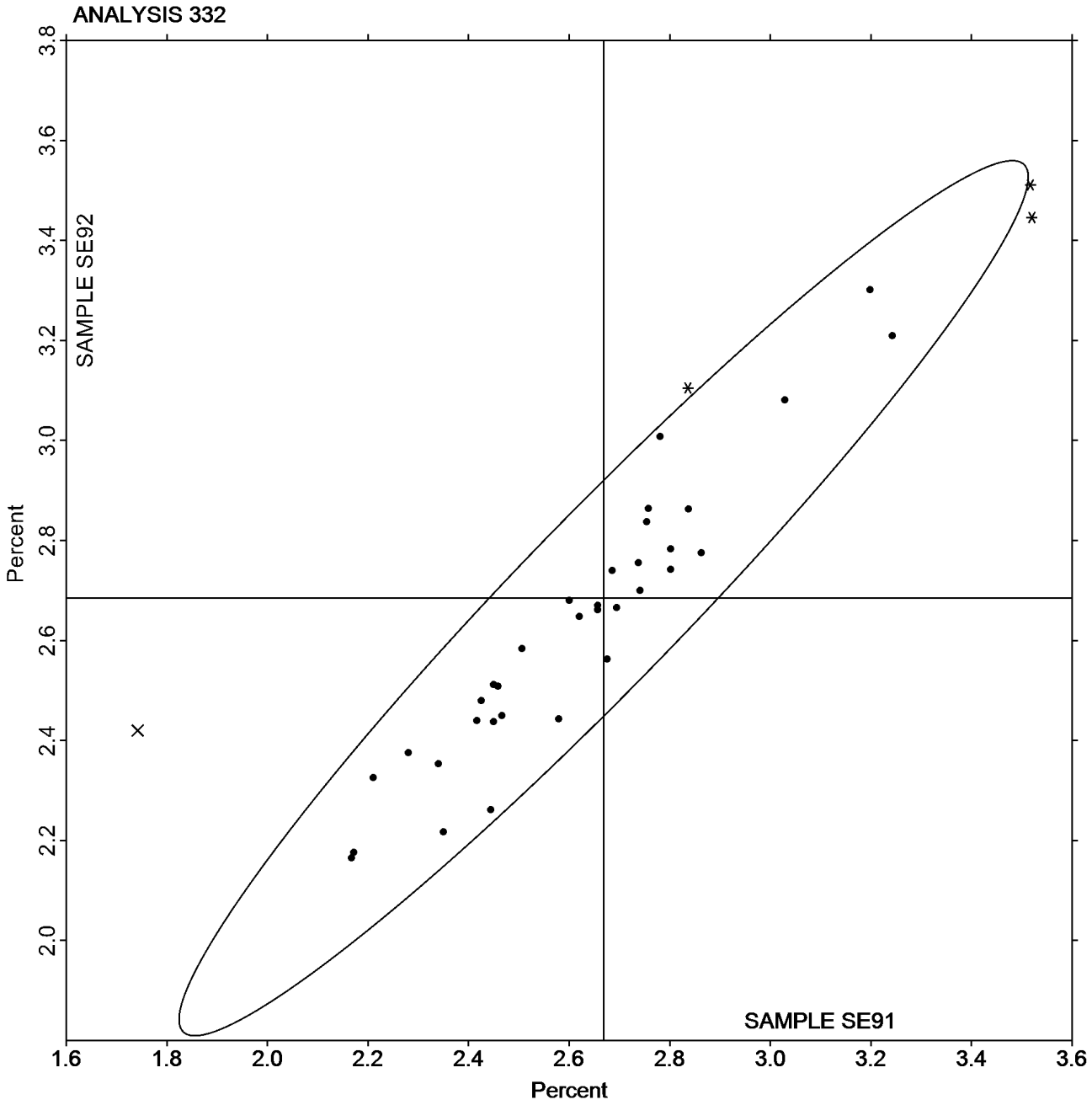
A8R92X (X) - Data for sample SE91 are low.

Key to Instrument Codes Reported by Participants

DM	IDM MTC-100 Tensile Tester	ID	Instron 4200 Series
IF	Instron 3340 Series	IM	Instron 5500 Series
IN	Instron 3360 Series	LA	L & W Autoline 300
LE	L & W Tensile Tester 066	LH	L & W Alwetron TH1 (Horizontal) SE 060
LW	L & W Tensile Tester SE062	LX	L & W (model not specified)
TA	Thwing-Albert Tensile Tester	TB	Thwing-Albert EJA/1000
TH	Thwing-Albert QC-3A	TK	Thwing-Albert Model 37-4
TO	Thwing-Albert QC-1000	TP	TMI Monitor/Tensile 100 (84-21-01)
TR	TMI Horizontal Tensile Tester	TT	Tinius Olsen Model MHT
TX	Thwing-Albert (model not specified)	XX	Instrument make/model not specified by lab

Grand Mean Sample SE91 = 2.6684 Percent

Grand Mean Sample SE92 = 2.6846 Percent



Paper & Paperboard Interlaboratory Testing Program

Analysis 334

Folding Endurance (MIT) - Double Folds

TAPPI Official Test Method T511

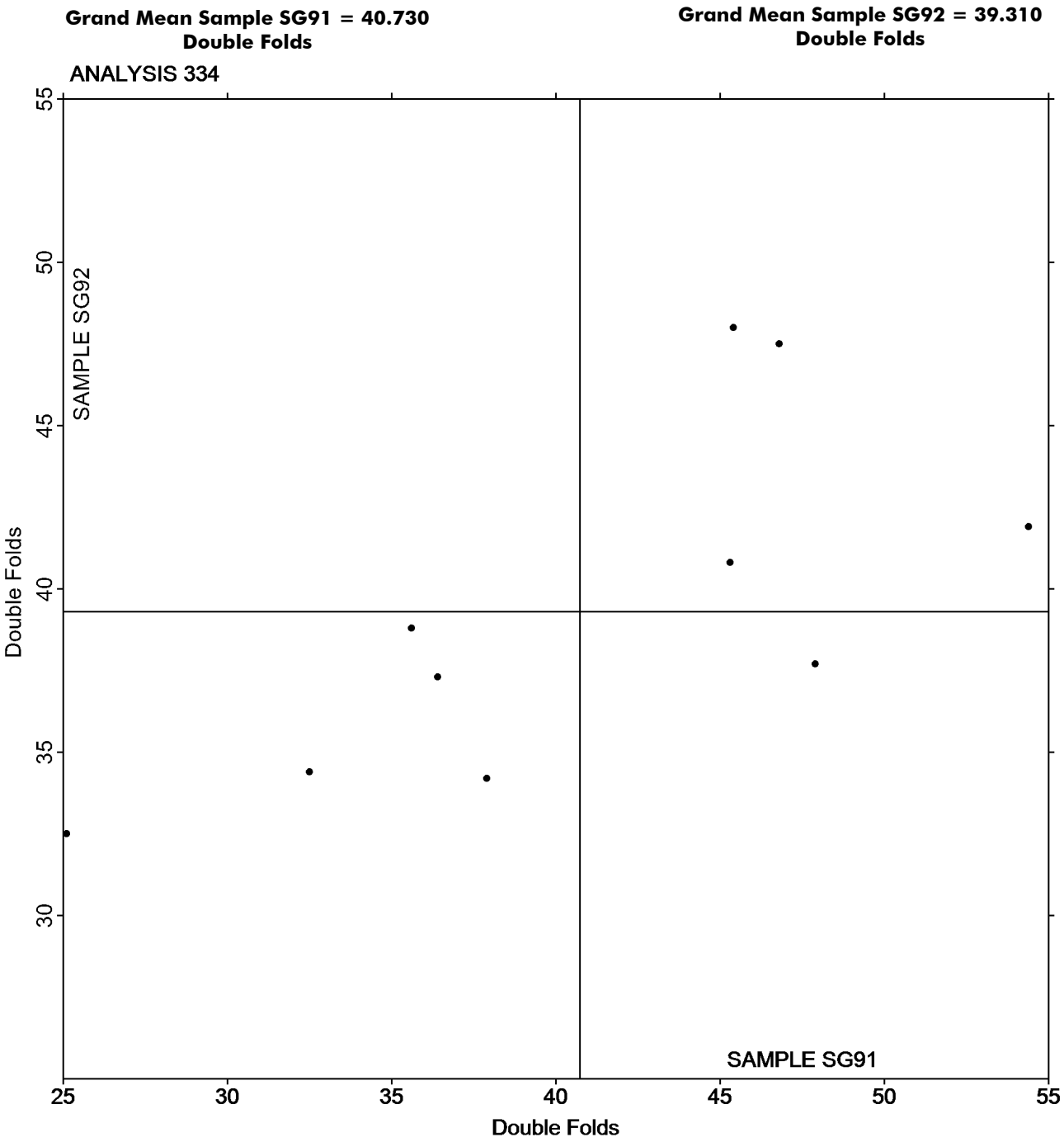
WebCode	Data Flag	Sample SG91 Lab Mean	Sample SG91 Diff from Grand Mean	Sample SG91 CPV	Sample SG92 Lab Mean	Sample SG92 Diff from Grand Mean	Sample SG92 CPV	Instr Code
3CNMMZ		47.90	7.17	0.82	37.70	-1.61	-0.30	MT
9UQHGT		46.80	6.07	0.70	47.50	8.19	1.54	MT
DNPUQN		36.40	-4.33	-0.50	37.30	-2.01	-0.38	MT
H4M4Q3		35.60	-5.13	-0.59	38.80	-0.51	-0.10	MT
PDL7VY		45.40	4.67	0.54	48.00	8.69	1.63	MT
PMW9GY		45.30	4.57	0.52	40.80	1.49	0.28	MT
VA9E8R		25.10	-15.63	-1.79	32.50	-6.81	-1.28	MT
WBC28X		54.40	13.67	1.57	41.90	2.59	0.49	MT
XPVCLT		32.50	-8.23	-0.94	34.40	-4.91	-0.92	MT
ZKPQMK		37.90	-2.83	-0.32	34.20	-5.11	-0.96	MT

Summary Statistics	Sample SG91	Sample SG92
Grand Means	40.73 Double Folds	39.31 Double Folds
Stnd Dev Btwn Labs	8.71 Double Folds	5.32 Double Folds

Statistics based on 10 of 10 reporting participants.

Key to Instrument Codes Reported by Participants

MT MIT - Tinius Olsen



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 336

Bending Resistance, Gurley Type

TAPPI Official Test Method T543

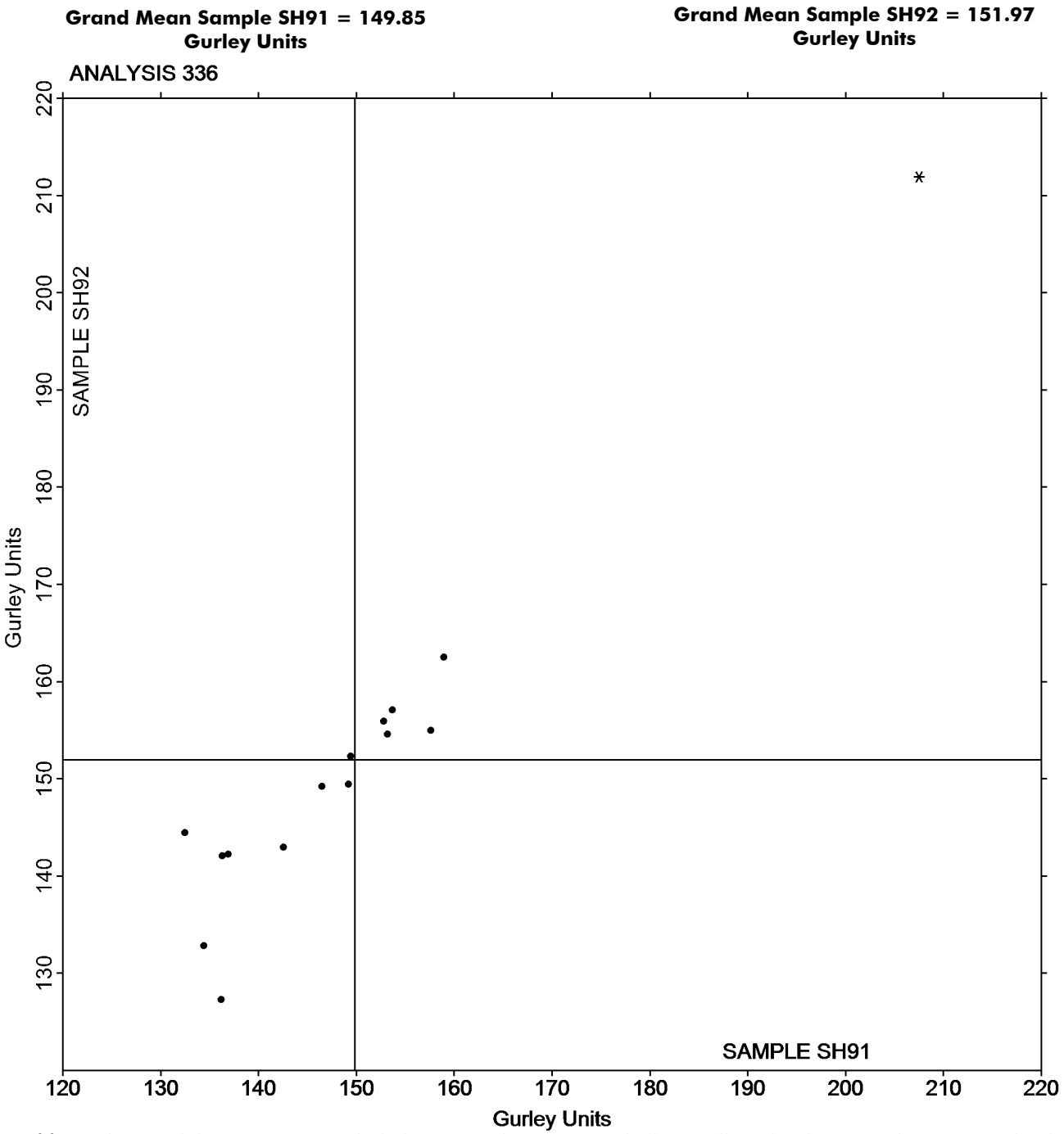
WebCode	Data Flag	Sample SH91 Lab Mean	Sample SH91 Diff from Grand Mean	Sample SH91 CPV	Sample SH92 Lab Mean	Sample SH92 Diff from Grand Mean	Sample SH92 CPV
67DNEK		153.7	3.9	0.21	157.1	5.1	0.27
AKFFVR		136.3	-13.5	-0.74	142.1	-9.9	-0.52
CL8LGG		152.8	3.0	0.16	155.9	3.9	0.21
DV83EK		153.2	3.3	0.18	154.6	2.6	0.14
H4M4Q3		157.6	7.8	0.43	155.0	3.0	0.16
HRTM22		146.5	-3.3	-0.18	149.2	-2.8	-0.15
P37R2R	X	59.2	-90.6	-4.98	56.4	-95.6	-5.02
PMW9GY		142.6	-7.3	-0.40	143.0	-9.0	-0.47
QJQ663		136.2	-13.7	-0.75	127.3	-24.7	-1.30
RHFMKX		132.5	-17.4	-0.95	144.5	-7.5	-0.39
TM2RHD		136.9	-12.9	-0.71	142.2	-9.7	-0.51
TXM2FZ		159.0	9.1	0.50	162.5	10.5	0.55
VA9E8R	*	207.5	57.7	3.17	211.9	59.9	3.15
XPDTT2		149.4	-0.4	-0.02	152.3	0.3	0.02
XPVCLT		134.4	-15.4	-0.85	132.8	-19.2	-1.01
ZKPQMK		149.2	-0.7	-0.04	149.4	-2.6	-0.13

Summary Statistics	Sample SH91	Sample SH92
Grand Means	149.85 Gurley Units	151.97 Gurley Units
Stnd Dev Btwn Labs	18.22 Gurley Units	19.05 Gurley Units

Statistics based on 15 of 16 reporting participants.

Comments on Assigned Data Flags for Test #336

P37R2R (X) - Data for both samples are low. Possible Systematic Error.



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 338

Bending Resistance, Taber Type - 0 to 10 Units

TAPPI Official Test Method T566

WebCode	Data Flag	Sample SJ91 Lab Mean	Sample SJ91 Diff from Grand Mean	Sample SJ91 CPV	Sample SJ92 Lab Mean	Sample SJ92 Diff from Grand Mean	Sample SJ92 CPV
67DNEK		1.967	-0.142	-0.31	2.005	-0.138	-0.29
G8QR3F		2.097	-0.012	-0.03	2.317	0.174	0.36
HRTM22		2.098	-0.012	-0.03	2.067	-0.076	-0.16
P37R2R		2.135	0.026	0.06	2.149	0.006	0.01
P9FD23		1.080	-1.029	-2.25	1.055	-1.088	-2.26
PMW9GY		2.644	0.535	1.17	2.335	0.192	0.40
TXM2FZ		1.990	-0.119	-0.26	2.060	-0.083	-0.17
UUEXUB		2.553	0.444	0.97	2.819	0.676	1.40
VK8K9Z	X	7.170	5.061	11.06	8.540	6.397	13.29
YFFPX4		2.420	0.311	0.68	2.480	0.337	0.70

Summary Statistics	Sample SJ91	Sample SJ92
Grand Means	2.11 Taber Units	2.14 Taber Units
Stnd Dev Btwn Labs	0.46 Taber Units	0.48 Taber Units

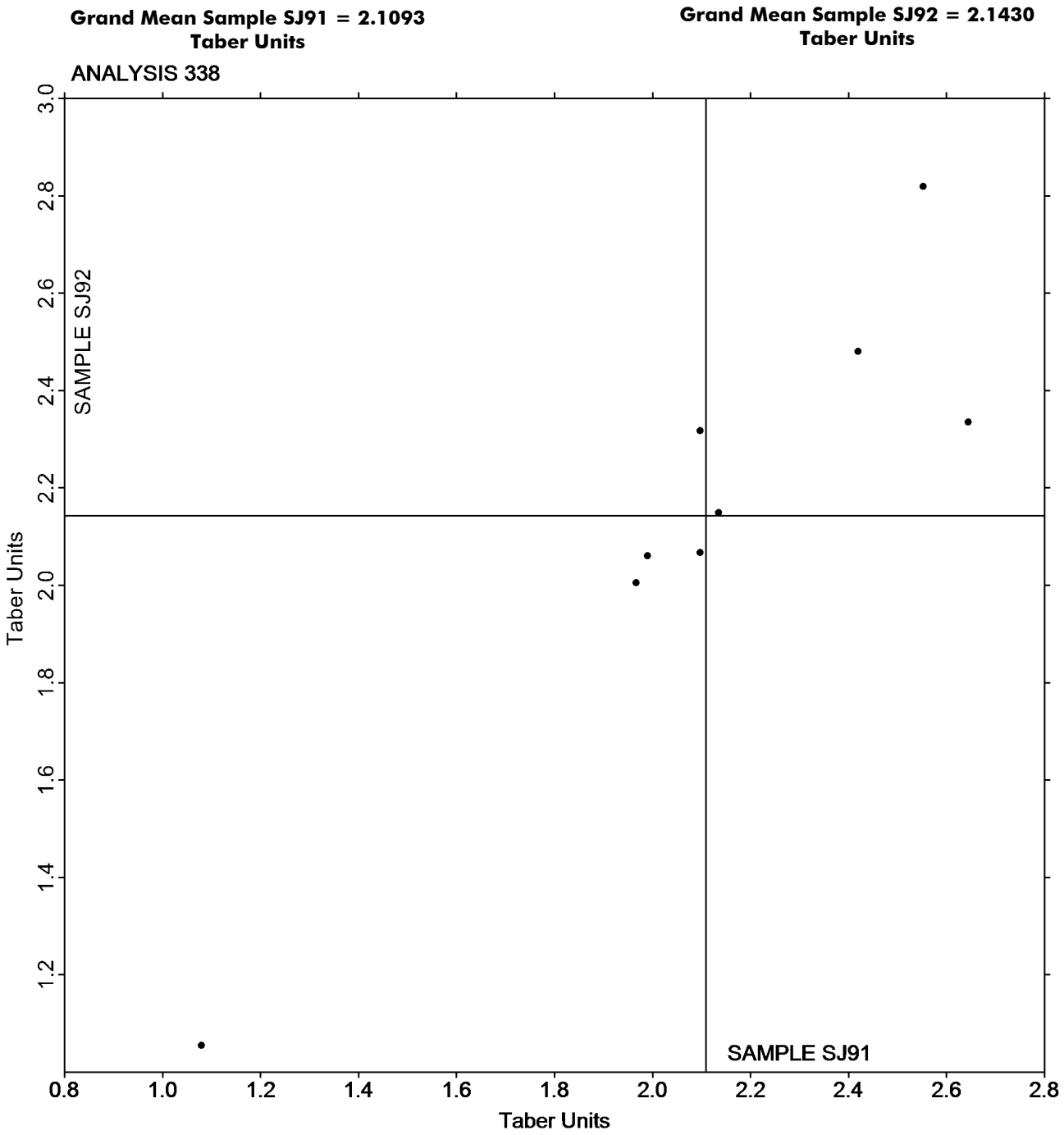
Statistics based on 9 of 10 reporting participants.

Comments on Assigned Data Flags for Test #338

VK8K9Z (X) - Extreme Data.

Analysis Notes:

G8QR3F - Data appear to be off by a factor of 10. CTS will not correct going forward.



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 339

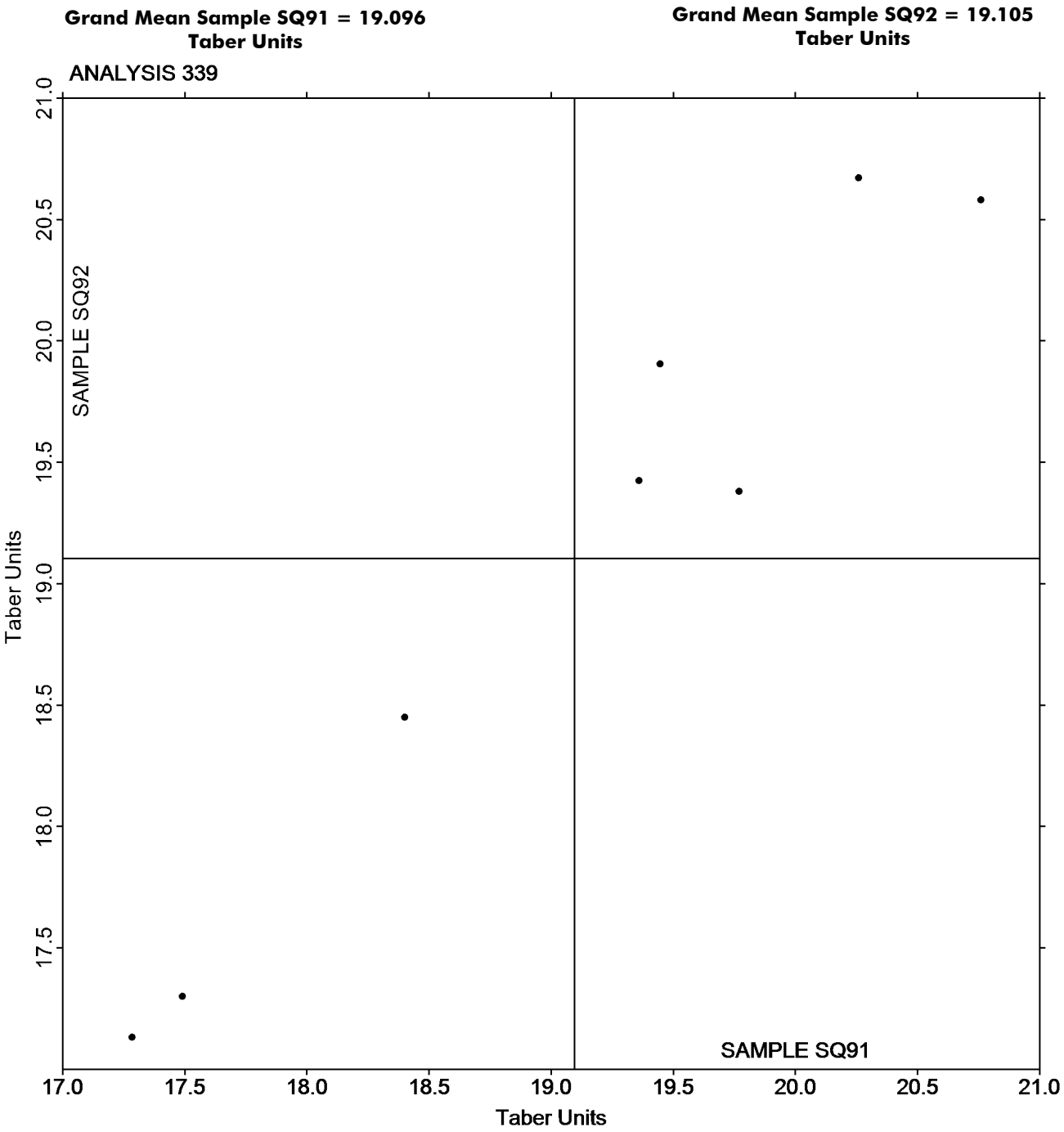
Bending Resistance, Taber Type - 10 to 100 Taber Units

TAPPI Official Test Method T489

WebCode	Data Flag	Sample SQ91 Lab Mean	Sample SQ91 Diff from Grand Mean	Sample SQ91 CPV	Sample SQ92 Lab Mean	Sample SQ92 Diff from Grand Mean	Sample SQ92 CPV
3GKB48		17.28	-1.81	-1.44	17.13	-1.97	-1.45
AJ647F		18.40	-0.70	-0.55	18.45	-0.66	-0.48
AKFFVR		19.36	0.26	0.21	19.43	0.32	0.23
E8WL9F		20.76	1.66	1.32	20.58	1.47	1.08
L322LL		17.49	-1.61	-1.27	17.30	-1.81	-1.32
PKQHY6		20.26	1.16	0.92	20.67	1.56	1.15
TER36E		19.45	0.35	0.28	19.90	0.80	0.59
WBC28X		19.77	0.67	0.53	19.38	0.27	0.20

Summary Statistics	Sample SQ91	Sample SQ92
Grand Means	19.10 Taber Units	19.11 Taber Units
Stnd Dev Btwn Labs	1.26 Taber Units	1.36 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 340

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

TAPPI Official Test Method T489

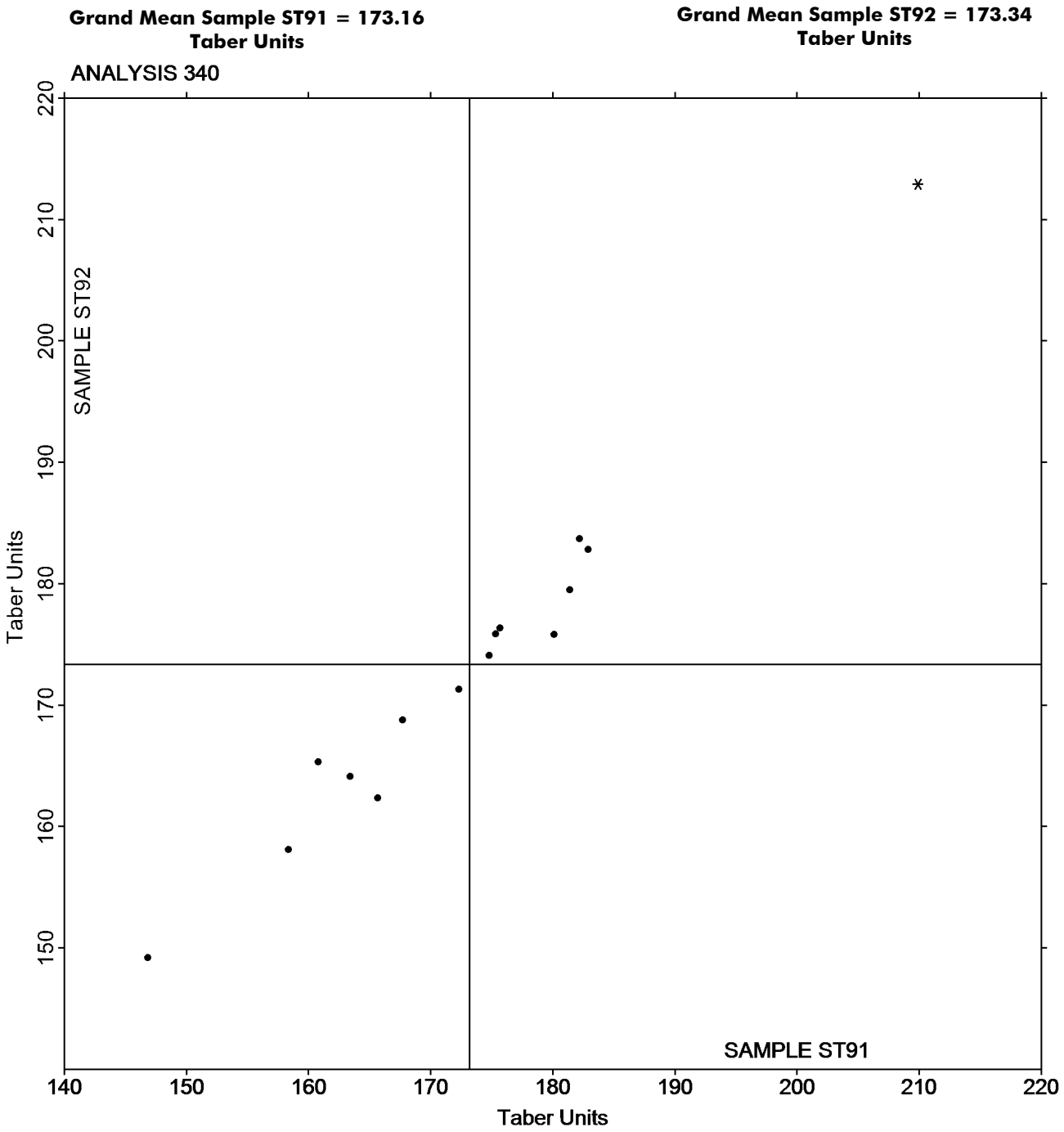
WebCode	Data Flag	Sample ST91 Lab Mean	Sample ST91 Diff from Grand Mean	Sample ST91 CPV	Sample ST92 Lab Mean	Sample ST92 Diff from Grand Mean	Sample ST92 CPV
3CNMMZ		163.4	-9.8	-0.68	164.1	-9.2	-0.64
7LJWJZ		181.4	8.2	0.57	179.5	6.2	0.43
8CAG2B		146.8	-26.3	-1.83	149.2	-24.2	-1.67
AKFFVR		175.3	2.2	0.15	175.9	2.5	0.17
FLQ9CM		182.9	9.7	0.68	182.8	9.5	0.65
FYKKQL		172.3	-0.9	-0.06	171.3	-2.0	-0.14
GYETAP		160.8	-12.3	-0.86	165.3	-8.0	-0.56
H4M4Q3		165.7	-7.5	-0.52	162.4	-11.0	-0.76
LJMNQA		180.1	6.9	0.48	175.8	2.5	0.17
MZQFDB	*	209.9	36.7	2.55	212.9	39.6	2.73
NMVLDM		167.7	-5.5	-0.38	168.8	-4.6	-0.32
PV9YRC		174.8	1.6	0.11	174.1	0.8	0.05
WBC28X		175.7	2.5	0.18	176.4	3.0	0.21
YZNPBB		182.2	9.0	0.63	183.7	10.4	0.72
ZJW8WZ		158.4	-14.8	-1.03	158.1	-15.2	-1.05

Summary Statistics	Sample ST91	Sample ST92
Grand Means	173.16 Taber Units	173.34 Taber Units
Stnd Dev Btwn Labs	14.40 Taber Units	14.48 Taber Units

Statistics based on 15 of 15 reporting participants.

Analysis Notes:

GYETAP - Data appear to be reported as mN-m, not g-cm as indicated on data entry form. CTS will not correct the Units going forward.



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 343
Z-Direction Tensile
TAPPI Official Test Method T541

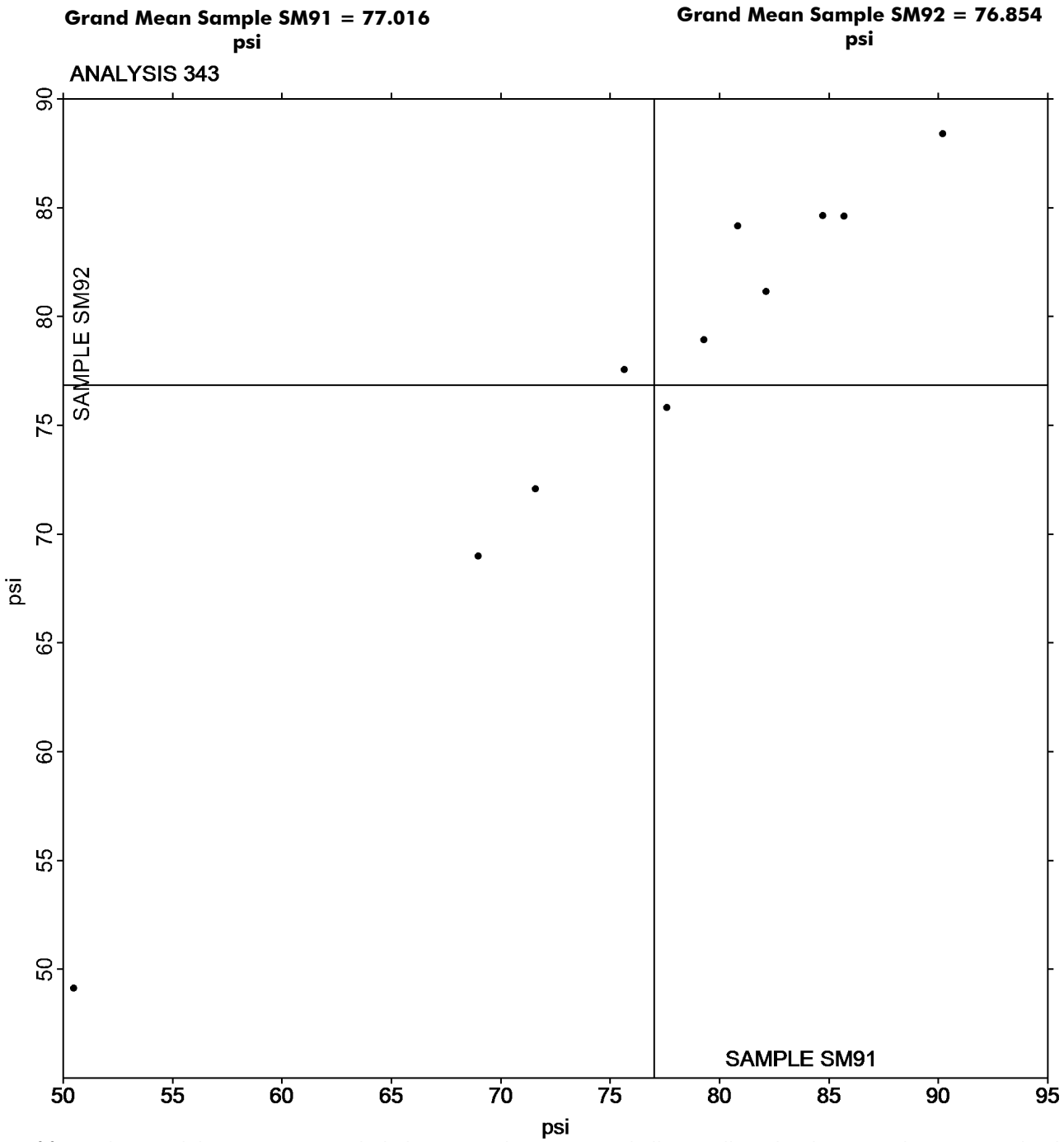
WebCode	Data Flag	Sample SM91 Lab Mean	Sample SM91 Diff from Grand Mean	Sample SM91 CPV	Sample SM92 Lab Mean	Sample SM92 Diff from Grand Mean	Sample SM92 CPV	Instr Code
3CNMMZ		75.64	-1.38	-0.13	77.56	0.71	0.06	LW
4KXDLW		68.98	-8.04	-0.75	68.98	-7.87	-0.72	LW
E8WL9F		80.84	3.82	0.36	84.16	7.31	0.67	CD
G8QR3F		84.72	7.70	0.72	84.63	7.77	0.71	TL
GYETAP		50.48	-26.54	-2.47	49.13	-27.73	-2.55	LW
L322LL		85.70	8.68	0.81	84.60	7.75	0.71	TA
PKQHY6		79.28	2.26	0.21	78.92	2.07	0.19	CD
PMW9GY		71.60	-5.42	-0.50	72.08	-4.77	-0.44	CD
VMD6Z8		77.60	0.58	0.05	75.80	-1.05	-0.10	TA
WBC28X		82.14	5.12	0.48	81.14	4.29	0.39	LW
X7XN34		90.20	13.18	1.23	88.40	11.55	1.06	DT

Summary Statistics	Sample SM91	Sample SM92
Grand Means	77.02 psi	76.85 psi
Stnd Dev Btwn Labs	10.75 psi	10.89 psi

Statistics based on 11 of 11 reporting participants.

Key to Instrument Codes Reported by Participants

CD	CSI CS-163D	DT	Dek-Tron DCS-163A ZDT Tester
LW	L & W ZD Tensile Tester	TA	Thwing-Albert Tensile Tester
TL	TMI Lab Master		



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 345
Z-Direction Tensile, Recycled Paperboard
TAPPI Official Test Method T541

WebCode	Data Flag	Sample SZ91 Lab Mean	Sample SZ91 Diff from Grand Mean	Sample SZ91 CPV	Sample SZ92 Lab Mean	Sample SZ92 Diff from Grand Mean	Sample SZ92 CPV	Instr Code
2LH4MH		66.78	4.32	0.68	66.10	4.93	0.80	DP
78PAFT		61.36	-1.10	-0.17	57.88	-3.29	-0.54	TA
7LJWJZ		74.40	11.94	1.89	68.40	7.23	1.18	TA
9WZVDF		65.30	2.84	0.45	63.80	2.63	0.43	LW
AKFFVR		63.94	1.48	0.23	63.32	2.15	0.35	CA
DVPHX9		57.60	-4.86	-0.77	56.60	-4.57	-0.75	CA
FJL7FB		57.12	-5.34	-0.84	54.82	-6.35	-1.04	LW
FLQ9CM		59.12	-3.34	-0.53	56.72	-4.45	-0.73	CD
FM299G		57.70	-4.76	-0.75	57.76	-3.41	-0.56	DP
FYKKQL	X	23.24	-39.22	-6.20	23.88	-37.29	-6.08	LW
H4M4Q3		60.24	-2.22	-0.35	55.84	-5.33	-0.87	CA
KEAL6E		49.56	-12.90	-2.04	52.80	-8.37	-1.37	XX
LJMNQA		66.00	3.54	0.56	67.40	6.23	1.02	CA
M62YKX	*	66.17	3.70	0.59	72.48	11.31	1.85	LW
NMVLDM		56.40	-6.06	-0.96	55.06	-6.11	-1.00	TA
PV9YRC		63.80	1.34	0.21	63.80	2.63	0.43	TA
U2YXC9		75.61	13.15	2.08	69.74	8.56	1.40	CH
UXXM4R		68.75	6.29	0.99	69.35	8.18	1.33	LW
WBC28X		56.02	-6.44	-1.02	54.60	-6.57	-1.07	LW
YZNPBB		59.42	-3.04	-0.48	55.76	-5.41	-0.88	TA
ZJW8WZ		64.00	1.54	0.24	61.20	0.03	0.00	CA

Summary Statistics	Sample SZ91	Sample SZ92
Grand Means	62.46 psi	61.17 psi
Stnd Dev Btwn Labs	6.33 psi	6.13 psi

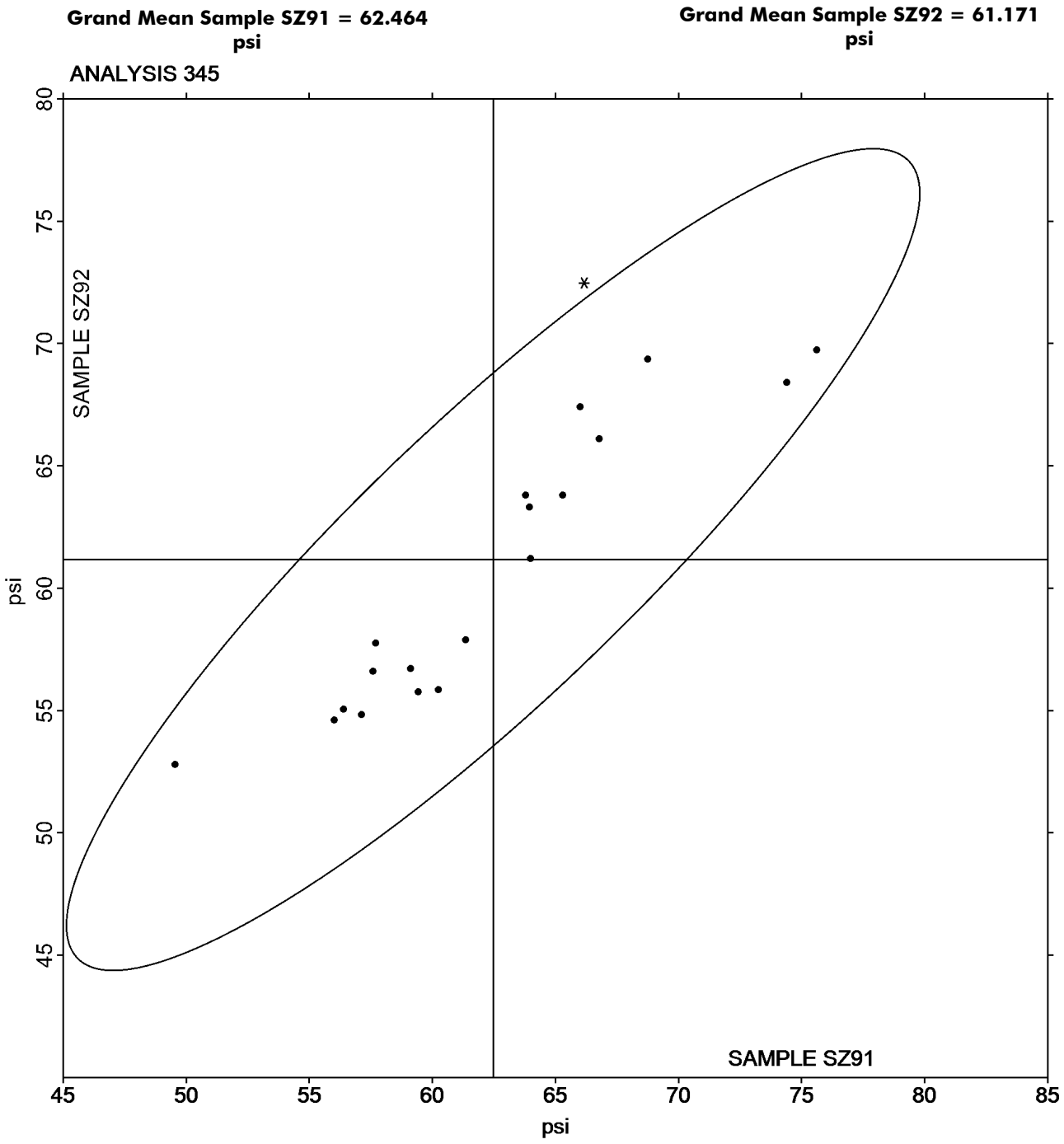
Statistics based on 20 of 21 reporting participants.

Comments on Assigned Data Flags for Test #345

FYKKQL (X) - Extreme Data.

Key to Instrument Codes Reported by Participants

CA	CSI CS-163	CD	CSI CS-163D
CH	Chatillon Ametek	DP	Dek-Tron XP Series
LW	L & W ZD Tensile Tester	TA	Thwing-Albert Tensile Tester
XX	Instrument make/model not specified by lab		



Paper & Paperboard Interlaboratory Testing Program

Analysis 348

Internal Bond Strength - Modified Scott Mechanics

TAPPI Provisional Test Method T569

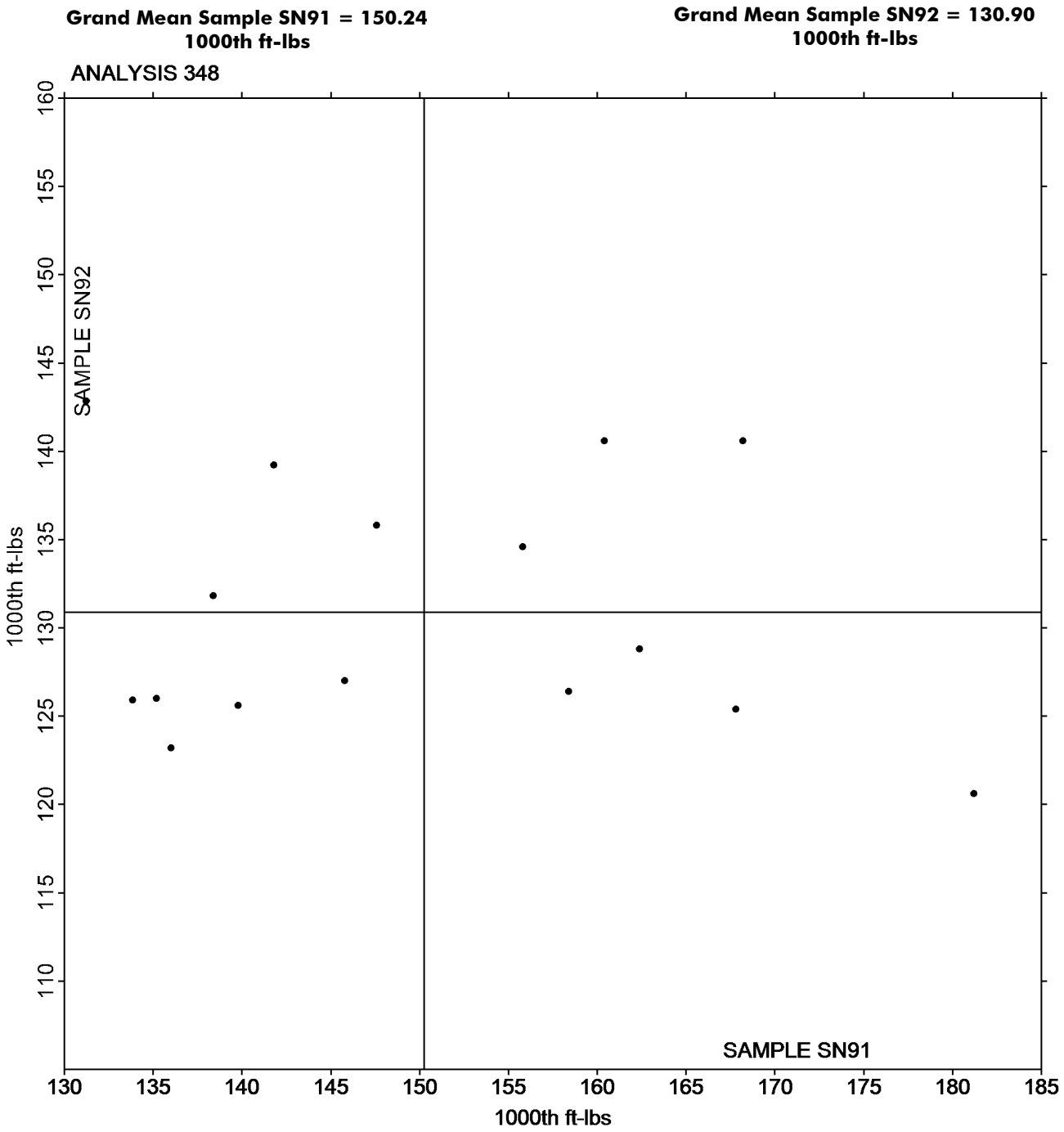
WebCode	Data Flag	Sample SN91 Lab Mean	Sample SN91 Diff from Grand Mean	Sample SN91 CPV	Sample SN92 Lab Mean	Sample SN92 Diff from Grand Mean	Sample SN92 CPV	Instr Code
2LH4MH		181.2	31.0	2.07	120.6	-10.3	-1.46	XX
3CNMMZ		135.2	-15.0	-1.01	126.0	-4.9	-0.69	HZ
E8WL9F		145.8	-4.4	-0.30	127.0	-3.9	-0.55	HY
H4M4Q3		136.0	-14.2	-0.95	123.2	-7.7	-1.09	HZ
L322LL		139.8	-10.4	-0.70	125.6	-5.3	-0.75	HZ
PKQHY6		141.8	-8.4	-0.57	139.2	8.3	1.17	HY
RHFMKX		158.4	8.2	0.55	126.4	-4.5	-0.64	HZ
RVFVC8		155.8	5.6	0.37	134.6	3.7	0.52	HZ
TGGYGR		162.4	12.2	0.81	128.8	-2.1	-0.30	HY
TM2RHD		168.2	18.0	1.20	140.6	9.7	1.37	HY
TXM2FZ		133.8	-16.4	-1.10	125.9	-5.0	-0.70	KR
UBPJG8		131.2	-19.0	-1.27	142.8	12.0	1.69	HY
VA9E8R		138.4	-11.8	-0.79	131.8	0.9	0.13	HY
WBC28X		160.4	10.2	0.68	140.6	9.7	1.37	HY
XPDTT2		167.8	17.6	1.18	125.4	-5.5	-0.78	HY
ZJW8WZ		147.6	-2.6	-0.18	135.8	4.9	0.69	HY

Summary Statistics	Sample SN91	Sample SN92
Grand Means	150.24 1000th ft-lbs	130.90 1000th ft-lbs
Stnd Dev Btwn Labs	14.93 1000th ft-lbs	7.07 1000th ft-lbs

Statistics based on 16 of 16 reporting participants.

Key to Instrument Codes Reported by Participants

HY	Huygen Digitized Scott Internal Bond Tester	HZ	Huygen Internal Bond Tester with AccuPress
KR	Kumagai Riki Kogyo Internal Bond Tester	XX	Instrument make/model not specified by lab



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 349

Internal Bond Strength - Scott Bond Models

TAPPI Provisional Test Method T569

WebCode	Data Flag	Sample SP91 Lab Mean	Sample SP91 Diff from Grand Mean	Sample SP91 CPV	Sample SP92 Lab Mean	Sample SP92 Diff from Grand Mean	Sample SP92 CPV	Instr Code
APB83P		135.6	-5.8	-0.28	103.2	-23.8	-0.84	SC
E7HVHK		131.9	-9.5	-0.46	118.4	-8.6	-0.30	TM
GYETAP		108.3	-33.1	-1.59	99.3	-27.7	-0.97	TM
HRTM22		146.6	5.2	0.25	134.0	7.0	0.25	TM
HV9PXT		125.8	-15.6	-0.75	109.4	-17.6	-0.62	TM
P37R2R		137.6	-3.8	-0.18	122.4	-4.6	-0.16	XX
RG3KNK		181.0	39.6	1.90	198.0	71.0	2.49	SC
U2YXC9		133.8	-7.6	-0.37	112.8	-14.2	-0.50	TM
U9WQHG		169.2	27.8	1.33	143.2	16.2	0.57	SC
ZFZDMH		144.4	3.0	0.14	129.2	2.2	0.08	XX

Summary Statistics	Sample SP91	Sample SP92
Grand Means	141.42 1000th ft-lbs	126.99 1000th ft-lbs
Stnd Dev Btwn Labs	20.84 1000th ft-lbs	28.48 1000th ft-lbs

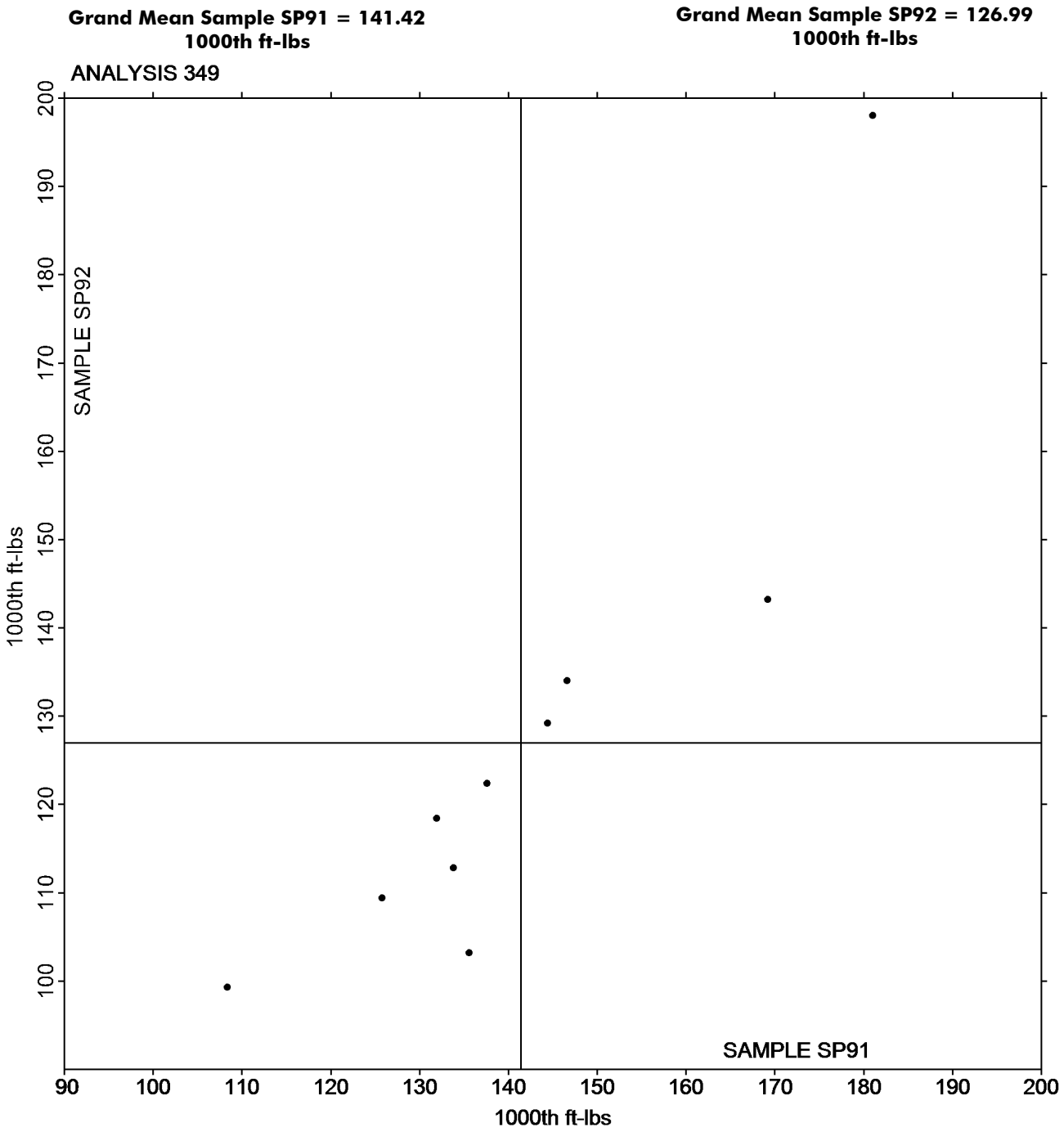
Statistics based on 10 of 10 reporting participants.

Key to Instrument Codes Reported by Participants

SC Scott Internal Bond Tester (Manual)

TM TMI Monitor/Internal Bond Tester

XX Instrument make/model not specified by lab



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-

