Collaborative Testing Services, Inc.

Paper & Paperboard Testing Program

Summary Report #3132 G - August 2021

Analysis	Analysis Name
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351	Color & Color Difference - Near White Papers - D65/10deg obs
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364	Coefficient of Static Friction - Horizontal Plane Method - Printing Papers
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370	Air Resistance - Gurley Oil Type
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377	Roughness - Print Surf Method - 2.5 to 6.0 Microns
378	Roughness - Sheffield Type
382	Moisture in Paper
384	Opacity (89% Reflectance Backing) - Fine Papers
386	Opacity (Paper Backing) - Fine Papers and Newsprint
390	Directional Brightness
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398	Grammage (Mass per Unit Area)
399	Sizing Test (Hercules Type)

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 Web site. 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.

ΔE — The calculated total color difference between the two samples. For the Hunter L,a,b analyses it is calculated in Hunter units (ΔE). For the L*,a*,b* analyses it is calculated in CIELAB units (ΔE*).

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

Report #3132 G, August 2021

Analysis 350

Color & Color Difference - Near White Papers - C/2deg obs

Hunter L,a,b - Illuminant C - 2 Degree Observer

Web Code	Data Flag	Samples	Hunter L, a, b Color Values L	a	b	Color Difference Values ΔL	Δa	Δb	ΔE	Instr Code
2ZGAV6		GA93	92.95	-0.29	1.62	-0.05	-0.01	0.04	0.06	TS
		GA94	92.90	-0.30	1.66					
6R8EZL		GA93	95.24	-0.50	2.07	0.05	0.04	-0.08	0.10	EH
		GA94	95.29	-0.46	1.98					
76DPAT	X	GA93	93.13	0.22	1.45	-0.08	-0.08	0.11	0.16	TS
		GA94	93.05	0.14	1.56					
7824X4		GA93	93.73	-0.58	1.87	-0.01	0.00	-0.01	0.01	XS
		GA94	93.73	-0.58	1.86					
8TEBM2	X	GA93	82.30	0.22	-0.14	-0.12	0.06	-0.02	0.14	TS
		GA94	82.18	0.28	-0.16					
AJZ7MG		GA93	93.12	-0.61	1.90	0.10	0.00	0.01	0.10	XX
		GA94	93.22	-0.61	1.91					
BHMY2Y		GA93	93.26	-0.15	1.33	-0.03	-0.01	0.01	0.04	TS
		GA94	93.23	-0.17	1.34					
CEJKTZ		GA93	94.34	-0.62	1.95	-0.21	-0.06	-0.12	0.25 X	HE
		GA94	94.13	-0.68	1.83					
D69J8Y		GA93	94.10	-0.57	2.03	-0.01	0.01	0.01	0.02	HE
		GA94	94.09	-0.57	2.05					
HFAWT8		GA93	93.84	-0.58	2.06	0.08	0.02	0.03	0.09	TC
		GA94	93.92	-0.57	2.09					
JX98DP		GA93	97.17	-1.79	3.55	0.04	0.07	-0.18	0.20	VM
		GA94	97.20	-1.72	3.37					
LL8PEX		GA93	95.29	-0.57	2.23	-0.01	0.02	0.00	0.02	LS
		GA94	95.28	-0.55	2.24					
ML4HPB		GA93	92.61	-1.02	0.99	-0.08	0.02	0.04	0.09	HG
		GA94	92.53	-1.00	1.03					
NN9BHN		GA93	93.74	-0.48	1.84	0.03	0.03	0.00	0.04	TS
		GA94	93.77	-0.45	1.84					
P6QQZB		GA93	94.07	-0.57	2.22	0.00	0.00	0.03	0.03	TC
		GA94	94.07	-0.57	2.25					
PU4UU4		GA93	95.22	-0.54	2.21	0.01	0.01	0.01	0.02	TC
		GA94	95.23	-0.54	2.22					

Paper & Paperboard Interlaboratory Testing Program

Report #3132 G, August 2021

Analysis 350

Color & Color Difference - Near White Papers - C/2deg obs

Hunter L,a,b - Illuminant C - 2 Degree Observer

Web Code	Data Flag	Samples	Hunter L, a, b Color Values L	a	b	Color Difference Values ΔL	Δa	Δb	ΔE	Instr Code
R92MGW		**GA93**	95.36	-0.40	1.97	0.01	0.01	0.02	0.02	LS
		GA94	95.37	-0.39	1.99					
TW6WBJ		**GA93**	94.97	-0.31	2.18	-0.03	0.00	0.02	0.04	HE
		GA94	94.94	-0.31	2.20					
UXTPMD		**GA93**	93.00	-0.18	1.69	-0.02	0.00	0.02	0.03	TS
		GA94	92.98	-0.18	1.71					
WYZNWD		**GA93**	94.08	-0.18	2.13	-0.01	0.00	0.02	0.02	LA
		GA94	94.07	-0.18	2.14					

Summary Statistics

Grand Means							
GA93	94.170	-0.553	1.962	-0.009	0.008	-0.007	0.066
GA94	94.157	-0.545	1.961				
Stnd Dev Btwn Labs							
GA93	1.139	0.373	0.509	0.067	0.026	0.060	0.066
GA94	1.155	0.359	0.468				

Statistics based on 18 of 20 reporting participants

Comments on Assigned Data Flags for Test #350

8TEBM2 (X) - Extreme data for both "L" values. High data for both "a" values. Very low data for both "b" values. Inconsistent within replicates of "a" & "b" for both values.

76DPAT (X) - High "a" values for both samples. Low delta "a".

Analysis Notes:

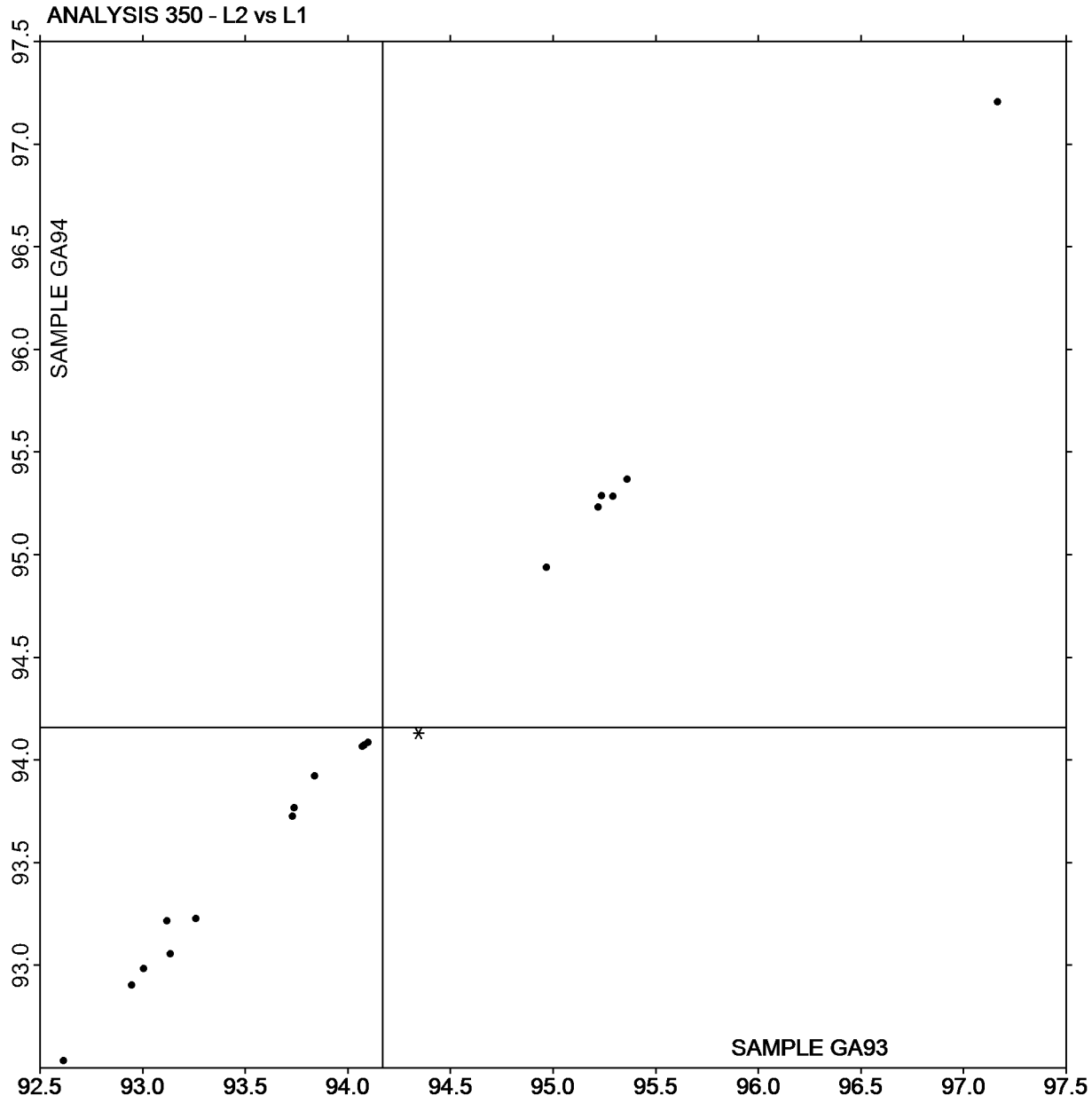
76DPAT - Due to CTS graphs using Absolute Values, data Flag is located within consensus data. However, "a" data is higher than the negative Grand Mean as shown above graphs.

8TEBM2 - Due to CTS graphs using Absolute Values, data Flag is located within consensus data. However, "a" data is higher than the negative Grand Mean as shown above graphs.

Key to Instrument Codes Reported by Participants

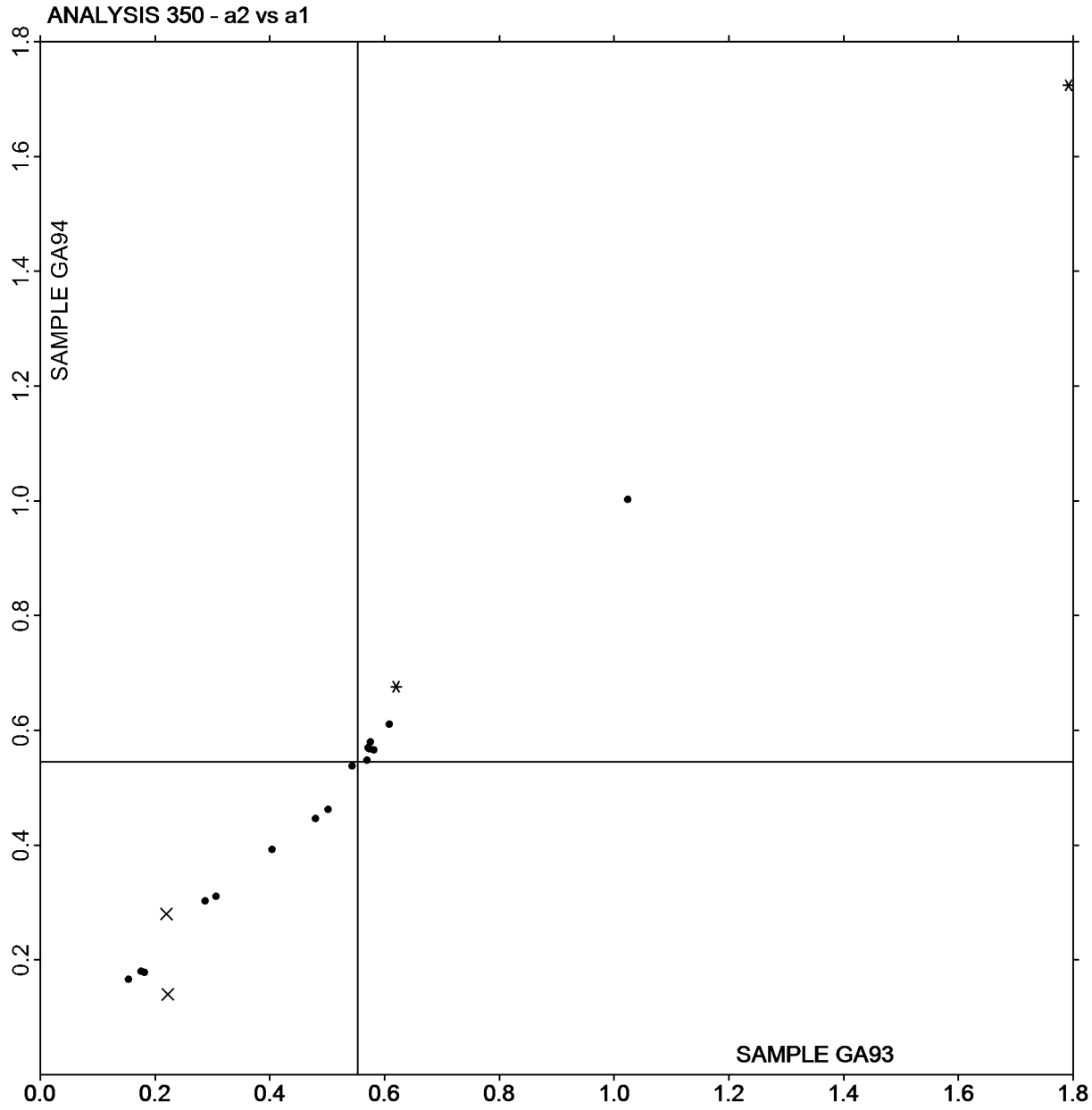
EH	Datacolor Elrepho SF450	HE	Hunter LabScan
HG	Hunter ColorQUEST	LA	L & W Elrepho AL300
LS	L & W Elrepho SE 070	TC	Technidyne Color Touch Series
TS	Technidyne Brightimeter Micro S-5	VM	Valmet PaperLab (was Kajaani/Robotest)
XS	X-Rite 938 Spectrodensitometer	XX	Instrument make/model not specified by lab

Plot of L values GA94 vs L values GA93



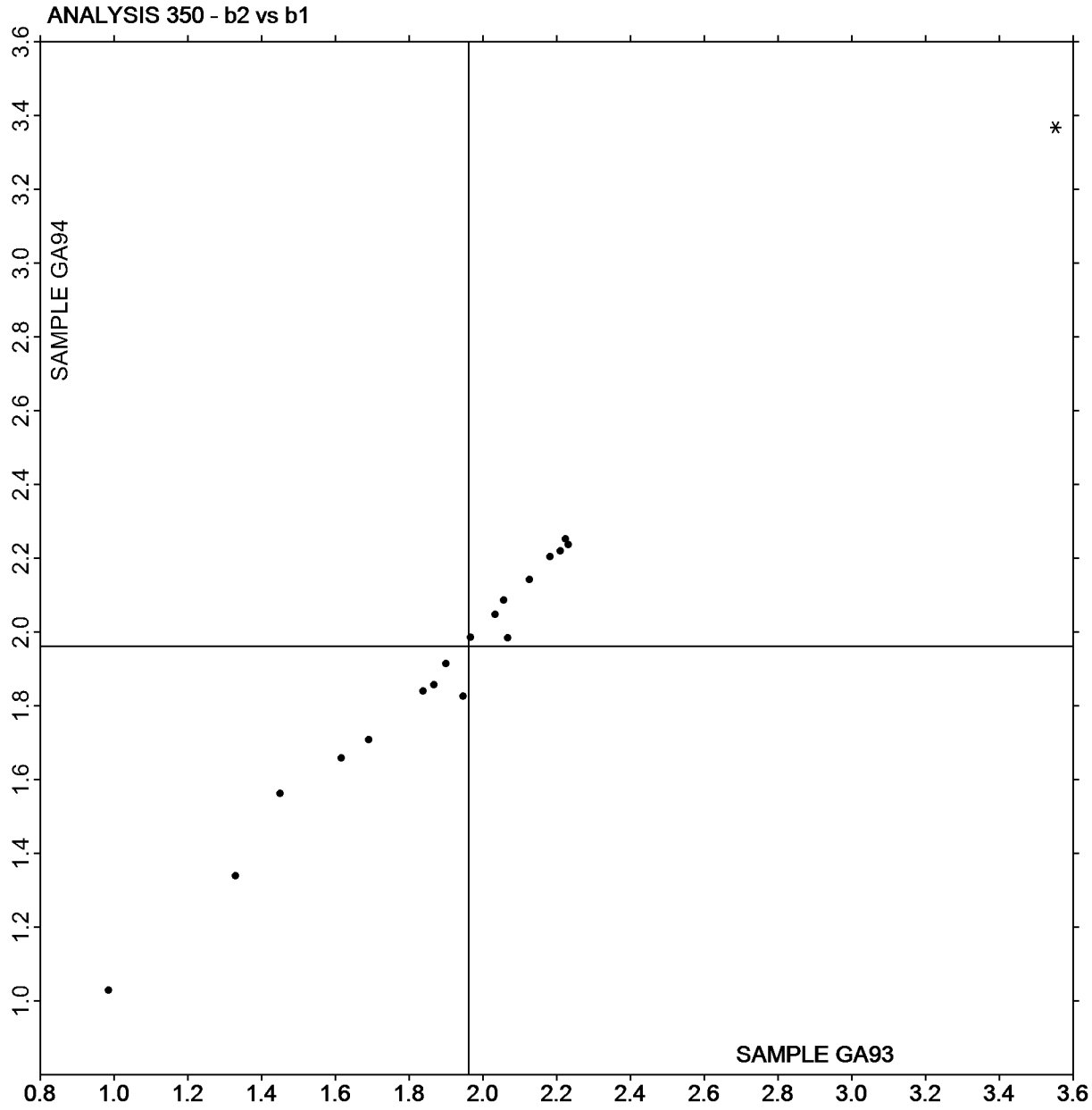
If fewer than 20 laboratories are included in an analysis, a control ellipse will not be drawn on the two-sample plot.

Plot of a values GA94 vs a values GA93



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

Plot of b values GA94 vs b values GA93



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 351

Color & Color Difference - Near White Papers - D65/10deg obs

Hunter L,a,b - Illuminant D65 - 10 Degree Observer

Web Code	Data Flag	Samples	CIE L* a* b* Color Values L*	a*	b*	Color Difference Values ΔL*	Δa*	Δb*	ΔE*	InstrCode
2A69JP		GA93	95.32	-0.56	2.38	0.00	0.01	0.00	0.01	HT
		GA94	95.32	-0.55	2.38					
2C92F9		GA93	95.29	-0.50	2.38	-0.01	0.04	-0.03	0.05	HT
		GA94	95.28	-0.46	2.35					
2ZU7XN		GA93	94.84	-0.40	1.95	0.03	-0.01	0.00	0.03	HE
		GA94	94.87	-0.41	1.96					
6EJCHT		GA93	95.30	-0.51	2.54	0.00	0.01	0.00	0.01	NG
		GA94	95.30	-0.50	2.54					
6R8EZL		GA93	95.25	-0.53	2.24	-0.01	0.07	-0.14	0.16	EH
		GA94	95.24	-0.46	2.09					
7ZKM7T		GA93	95.34	-0.55	2.38	-0.02	0.00	-0.05	0.06	EF
		GA94	95.32	-0.55	2.33					
869UYL		GA93	95.56	-0.48	2.32	0.00	0.00	-0.01	0.01	XV
		GA94	95.56	-0.48	2.31					
DBDHHP		GA93	94.14	-0.33	2.03	-0.04	0.01	-0.01	0.05	XB
		GA94	94.10	-0.32	2.02					
DHWKPR		GA93	95.47	-0.56	2.39	-0.01	0.01	0.01	0.02	EH
		GA94	95.46	-0.54	2.39					
H84T7H		GA93	95.20	-0.62	2.05	-0.01	0.01	-0.01	0.02	XC
		GA94	95.18	-0.62	2.03					
HFAWT8		GA93	94.71	-0.30	2.30	-0.02	-0.02	0.01	0.02	HE
		GA94	94.69	-0.31	2.31					
KEC498		GA93	95.26	-0.54	2.34	-0.01	0.00	0.00	0.01	LS
		GA94	95.25	-0.54	2.34					
PXR9JD		GA93	91.80	-0.40	0.90	0.08	0.02	0.01	0.08	XX
		GA94	91.88	-0.38	0.91					
PY444K		GA93	95.61	-0.44	2.25	-0.01	-0.02	-0.01	0.02	NG
		GA94	95.60	-0.46	2.24					
R92MGW		GA93	95.35	-0.41	2.00	0.00	0.01	0.00	0.01	LS
		GA94	95.35	-0.40	2.00					
UY72N4	X	GA93	99.69	-0.48	10.38	-0.27	0.30	-0.68	0.79 X	XP
		GA94	99.42	-0.18	9.70					

XHP8L6	GA93	95.26	-0.56	2.26	0.02	0.08	-0.16	0.18 X	TC
	GA94	95.28	-0.48	2.10					

Summary Statistics

Grand Means							
GA93	95.257	-0.479	2.170	0.000	0.013	-0.026	0.046
GA94	95.241	-0.449	2.144				
Stnd Dev Btwn Labs							
GA93	1.450	0.089	0.376	0.027	0.027	0.053	0.053
GA94	1.388	0.109	0.371				

Statistics based on 16 of 17 reporting participants

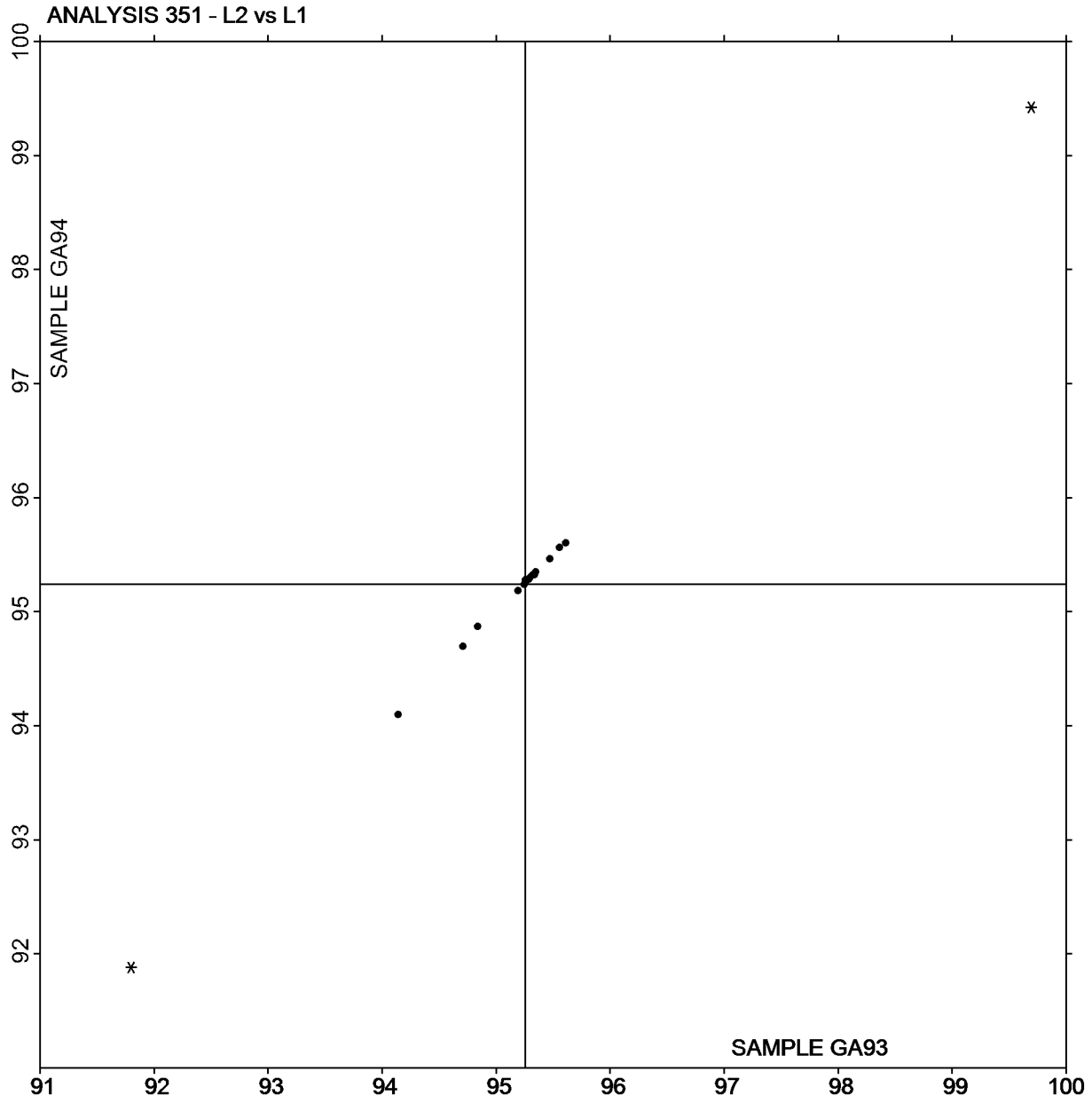
Comments on Assigned Data Flags for Test #351

UY72N4 (X) - Extreme data for both "b" values. Low delta "L" & delta "b". High delta "a" & delta "E".

Key to Instrument Codes Reported by Participants

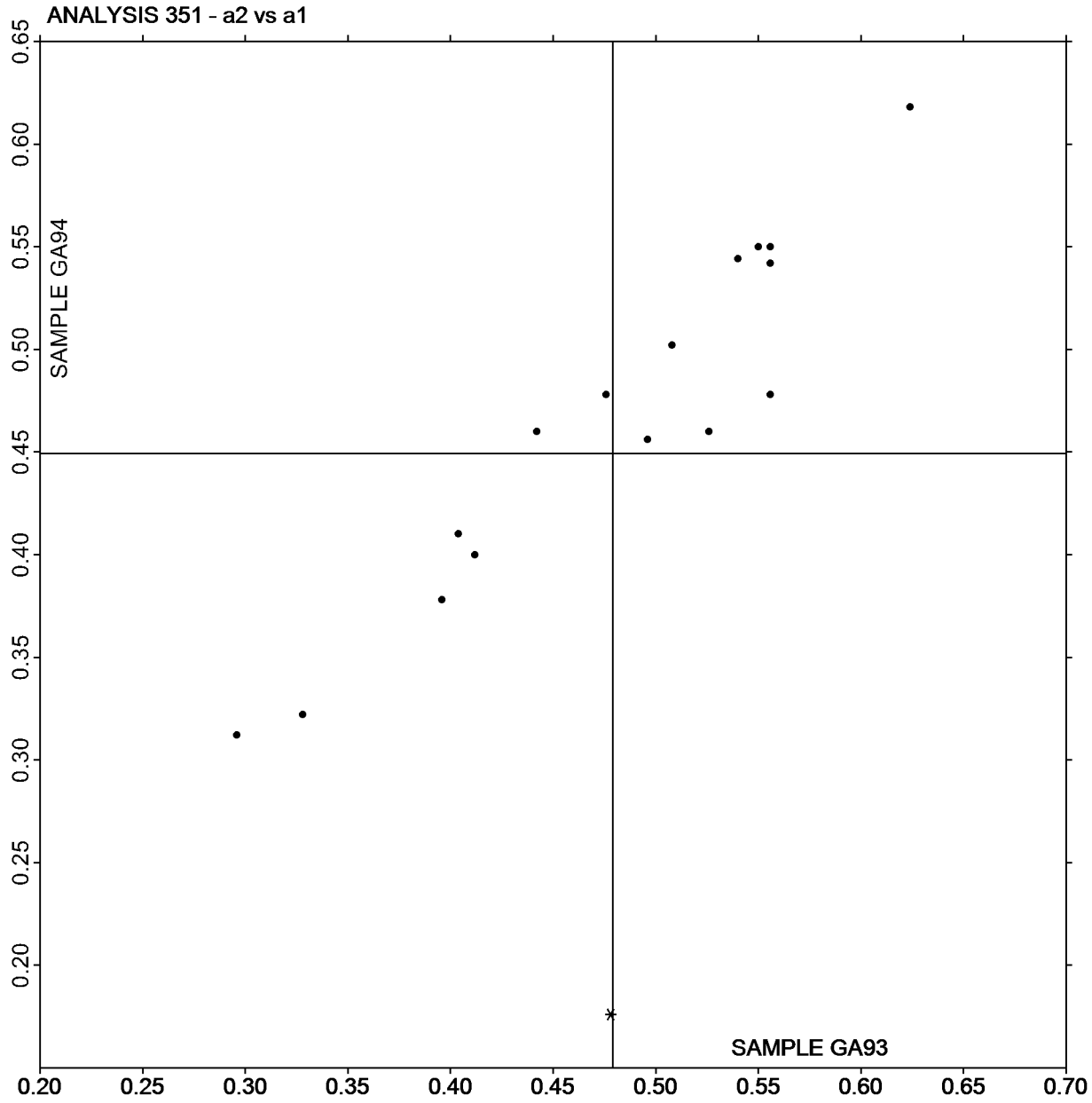
EF	Datacolor Elrepho 3000	EH	Datacolor Elrepho SF450
HE	Hunter LabScan	HT	Hunter UltraScan Vis
LS	L & W Elrepho SE 070	NG	Minolta CM-3700d Spectrophotometer
TC	Technidyne Color Touch Series	XB	X-Rite Ci7
XC	X-Rite eXact Series	XP	X-Rite Spectrophotometer DTP
XV	X-Rite SP60 Series	XX	Instrument make/model not specified by lab

Plot of L values GA94 vs L values GA93



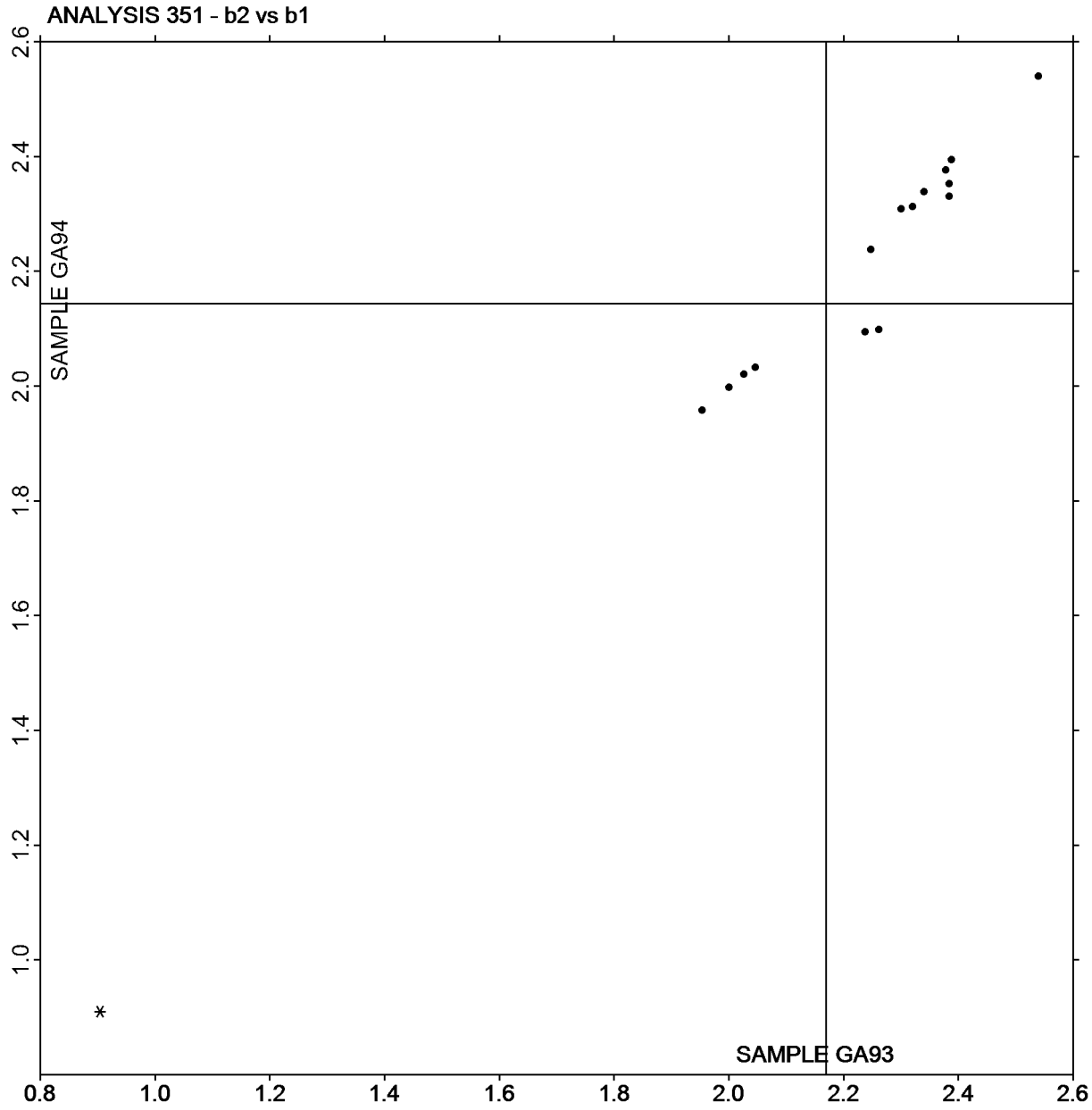
If fewer than 20 laboratories are included in an analysis, a control ellipse will not be drawn on the two-sample plot.

Plot of a values GA94 vs a values GA93



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

Plot of b values GA94 vs b values GA93



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 360

Thickness (Caliper), Printing papers

TAPPI Official Test Method T411

WebCode	Data Flag	Sample GV93 Lab Mean	Sample GV93 Diff from Grand Mean	Sample GV93 CPV	Sample GV94 Lab Mean	Sample GV94 Diff from Grand Mean	Sample GV94 CPV	Instr Code
22NUGJ		5.107	0.143	1.30	5.118	0.148	1.24	TM
2A69JP		4.980	0.016	0.14	5.049	0.079	0.66	EM
2C92F9		4.958	-0.006	-0.06	4.971	0.001	0.01	EM
2EZZU8		5.156	0.192	1.74	5.186	0.216	1.81	OK
2ZGAV6	*	4.617	-0.348	-3.16	4.601	-0.369	-3.08	TM
2ZU7XN		5.006	0.042	0.38	5.066	0.096	0.80	EM
3LVGJ3		4.945	-0.019	-0.18	4.989	0.019	0.16	PP
6AQBFE		5.031	0.067	0.61	5.035	0.065	0.54	LW
6EJCHT	X	5.170	0.206	1.87	5.028	0.058	0.48	PP
6N936L		4.948	-0.016	-0.15	4.999	0.029	0.24	PP
6R8EZL		5.018	0.054	0.49	5.044	0.074	0.62	EM
7824X4		4.910	-0.054	-0.49	4.910	-0.060	-0.50	TM
AJZ7MG		5.040	0.076	0.69	5.060	0.090	0.75	XX
AYR94K		5.055	0.091	0.82	5.066	0.096	0.80	EM
B2FZRV		5.018	0.054	0.49	5.001	0.031	0.26	TA
BHMY2Y		4.877	-0.088	-0.80	4.939	-0.031	-0.26	TM
CCGKUN		4.973	0.008	0.08	5.058	0.087	0.73	LW
DBDHHP		5.011	0.047	0.42	4.984	0.014	0.12	TM
DHWKPR		5.007	0.043	0.39	5.047	0.077	0.64	EM
GGBAZA		4.868	-0.096	-0.88	4.767	-0.203	-1.70	TA
H84T7H		4.988	0.024	0.22	4.933	-0.037	-0.31	LW
JLC7WE		4.849	-0.116	-1.05	4.861	-0.109	-0.91	MT
JRJRPH		4.993	0.028	0.26	4.932	-0.038	-0.32	LW
KGHNXT		5.008	0.044	0.40	4.980	0.010	0.08	LW
LL8PEX		4.956	-0.008	-0.08	5.004	0.034	0.28	LW
NK863H		4.945	-0.019	-0.18	5.023	0.053	0.44	TM
NN9BHN		4.915	-0.049	-0.45	4.812	-0.158	-1.32	LA
NP3YZJ		4.864	-0.100	-0.91	4.910	-0.060	-0.50	TA
P8E6NL		4.876	-0.088	-0.80	4.871	-0.099	-0.83	PP
PU4UU4		4.759	-0.205	-1.87	4.784	-0.186	-1.56	LA
PXR9JD		5.065	0.101	0.92	4.985	0.015	0.13	PP
Q96N6D		4.996	0.032	0.29	4.995	0.025	0.21	EM
QJ4J2M		4.919	-0.046	-0.41	4.960	-0.010	-0.09	TM
R3WJTJ		4.972	0.007	0.07	4.928	-0.042	-0.36	LW
RFH2J3		4.990	0.026	0.23	5.022	0.052	0.44	LW
RQGUUE		5.114	0.149	1.36	5.163	0.193	1.61	TM
TL644D		4.965	0.001	0.01	4.887	-0.083	-0.69	PP
TXYKTE		4.980	0.016	0.14	4.900	-0.070	-0.59	TA
UH3RJX		4.736	-0.229	-2.08	4.757	-0.213	-1.78	LW
UXTPMD		5.004	0.040	0.36	4.984	0.014	0.12	EM
UY72N4		4.922	-0.042	-0.39	4.908	-0.062	-0.52	TM

Paper & Paperboard Interlaboratory Testing Program

Analysis 360
Thickness (Caliper), Printing papers
TAPPI Official Test Method T411

WebCode	Data Flag	Sample GV93 Lab Mean	Sample GV93 Diff from Grand Mean	Sample GV93 CPV	Sample GV94 Lab Mean	Sample GV94 Diff from Grand Mean	Sample GV94 CPV	Instr Code
VGNH9C		5.198	0.234	2.13	5.218	0.248	2.07	LW
W6P8DA		5.093	0.129	1.17	5.101	0.131	1.10	LA
WBU6LE		5.037	0.073	0.66	5.040	0.070	0.58	LW
WYZNWD		5.018	0.053	0.49	5.053	0.083	0.69	EM
XGCX9X		4.740	-0.224	-2.04	4.768	-0.202	-1.69	TM
XHP8L6		5.063	0.099	0.90	5.067	0.097	0.81	PP
Y7TJ6V		4.836	-0.128	-1.17	4.857	-0.113	-0.95	FR

Summary Statistics	Sample GV93	Sample GV94
Grand Means	4.96 mils	4.97 mils
Stnd Dev Btwn Labs	0.11 mils	0.12 mils

Statistics based on 47 of 48 reporting participants.

Comments on Assigned Data Flags for Test #360

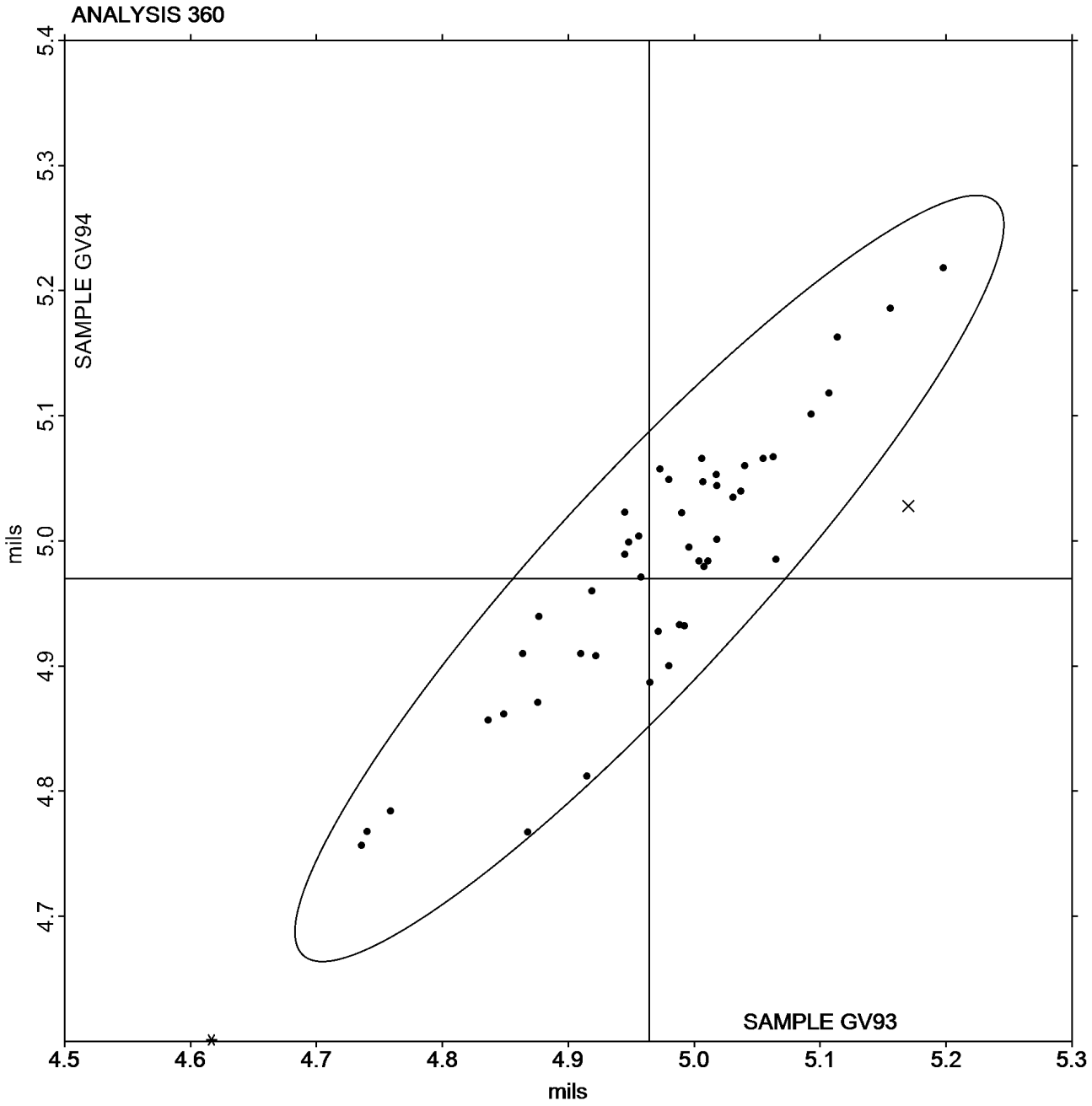
6EJCHT (X) - Inconsistent in testing between samples.

Key to Instrument Codes Reported by Participants

EM	Emveco	FR	Frank Instruments
LA	L & W Autoline	LW	L & W
MT	Mitutoyo	OK	Oakland
PP	Technidyne Profile/Plus	TA	Thwing-Albert
TM	TMI	XX	Instrument make/model not specified by lab

Grand Mean Sample GV93 = 4.9643 mils

Grand Mean Sample GV94 = 4.9700 mils



Paper & Paperboard Interlaboratory Testing Program

Analysis 361
Thickness (Caliper), Packaging papers
TAPPI Official Test Method T411

		Sample GY93			Sample GY94			
WebCode	Data Flag	Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	Instr Code
37GB7H		7.657	0.013	0.10	7.577	-0.037	-0.30	TM
7A8NHW	*	7.312	-0.333	-2.71	7.259	-0.355	-2.83	XX
7QWR4T		7.661	0.017	0.13	7.604	-0.010	-0.08	LA
86RE9Y		7.825	0.180	1.47	7.797	0.183	1.46	LW
8EJUX4		7.592	-0.052	-0.43	7.615	0.001	0.01	TM
8TEBM2		7.498	-0.146	-1.19	7.485	-0.129	-1.03	OK
9G2BNM		7.808	0.164	1.33	7.788	0.174	1.38	LA
9J4BNK		7.580	-0.064	-0.53	7.600	-0.014	-0.11	TA
AVD97T		7.677	0.033	0.27	7.685	0.071	0.56	LW
CCEVQQ		7.543	-0.101	-0.83	7.433	-0.181	-1.44	EM
CEJKTZ		7.776	0.132	1.07	7.669	0.055	0.44	EM
D69J8Y		7.609	-0.035	-0.29	7.626	0.012	0.09	EM
DGHFRT		7.702	0.058	0.47	7.693	0.079	0.63	LW
DHWKPR		7.613	-0.031	-0.26	7.515	-0.099	-0.79	EM
EF3EKK		7.591	-0.054	-0.44	7.618	0.004	0.03	LA
FP9FJQ		7.520	-0.124	-1.01	7.510	-0.104	-0.83	TM
GGBAZA		7.535	-0.109	-0.89	7.472	-0.142	-1.13	TA
HFAWT8		7.672	0.028	0.22	7.621	0.007	0.05	EM
HTW7EC		7.784	0.140	1.14	7.649	0.035	0.28	LW
JRJRPH		7.386	-0.259	-2.11	7.402	-0.213	-1.69	LW
JWY3ZZ		7.594	-0.050	-0.41	7.587	-0.028	-0.22	LW
JX98DP		7.443	-0.201	-1.64	7.404	-0.210	-1.67	VP
K7XGWJ		7.640	-0.004	-0.04	7.618	0.004	0.03	PP
KEC498		7.632	-0.012	-0.10	7.606	-0.008	-0.06	LW
N4XFMW	X	7.142	-0.502	-4.09	7.023	-0.591	-4.71	TM
PXR9JD		7.789	0.145	1.18	7.730	0.116	0.92	PP
QF4CHB		7.807	0.163	1.33	7.796	0.182	1.45	LW
R3WJTJ		7.740	0.096	0.78	7.707	0.093	0.74	LW
R92MGW	X	7,594.492	7,586.848	61,829.58	7,590.555	7,582.941	60,374.29	TM
RYDU6Z		7.536	-0.108	-0.88	7.524	-0.090	-0.72	LA
TP2U94		7.700	0.056	0.45	7.780	0.166	1.32	TM
TW6WBJ		7.728	0.084	0.68	7.590	-0.024	-0.19	EM
TXYKTE		7.770	0.126	1.02	7.770	0.156	1.24	TA
UCAK3A		7.660	0.015	0.13	7.610	-0.004	-0.03	LW
V4YJGA		7.728	0.083	0.68	7.727	0.113	0.90	LW
W6P8DA		7.677	0.033	0.27	7.702	0.088	0.70	LA
WYZNWD		7.770	0.126	1.02	7.726	0.111	0.89	EM

Summary Statistics	Sample GY93	Sample GY94
Grand Means	7.64 mils	7.61 mils
Stnd Dev Btwn Labs	0.12 mils	0.13 mils

Statistics based on 35 of 37 reporting participants.

Comments on Assigned Data Flags for Test #361

N4XFMW (X) - Data for both samples are low. Possible Systematic Error.

R92MGW (X) - Extreme Data.

Analysis Notes:

7QWR4T - One determination removed from the Lab Mean of Sample GY94 per Grubb's Test at 1% risk (TAPPI 1205).

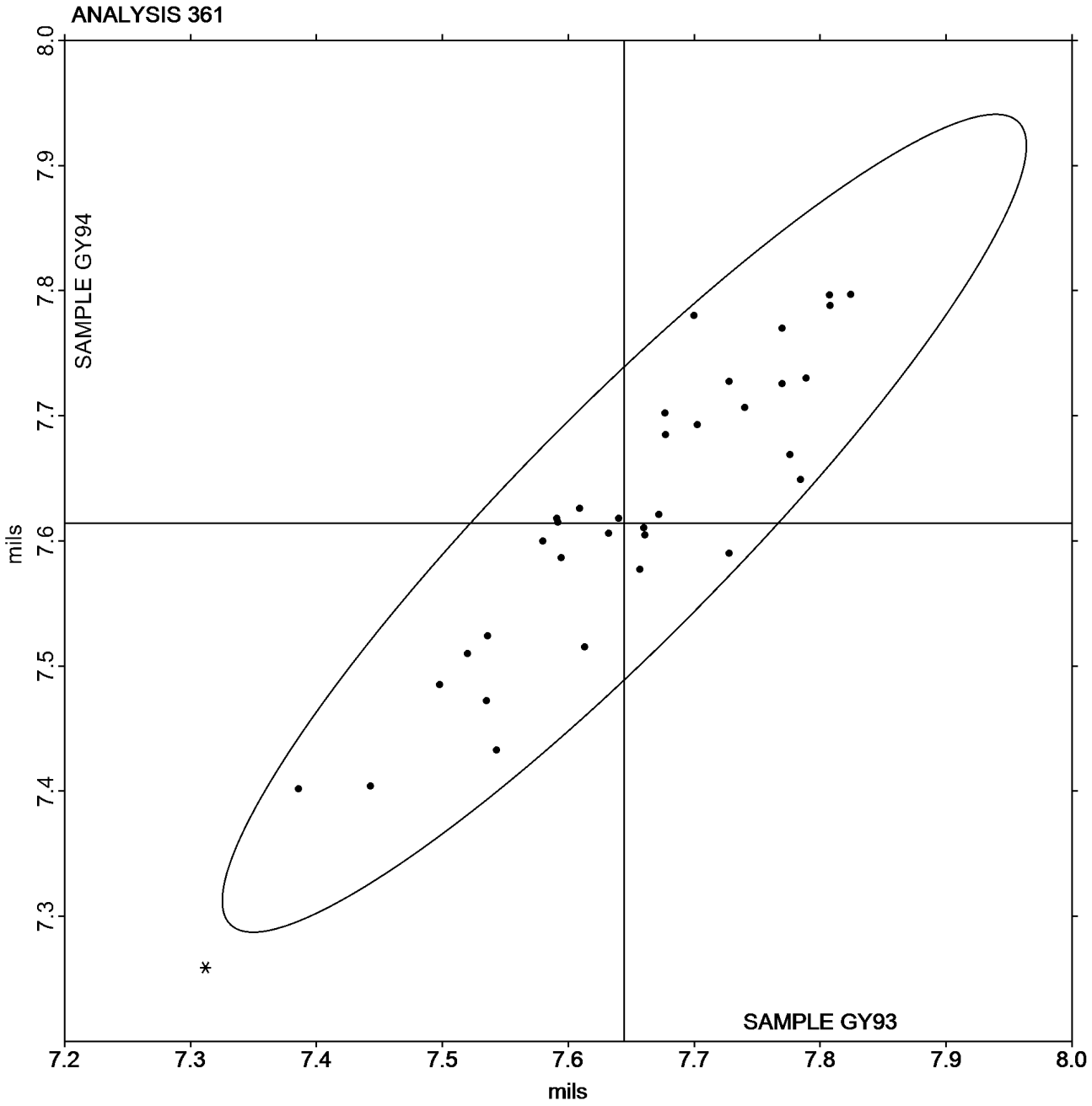
R92MGW - Possibly incorrect units were selected.

Key to Instrument Codes Reported by Participants

EM	Emveco	LA	L & W Autoline
LW	L & W	OK	Oakland
PP	Technidyne Profile/Plus	TA	Thwing-Albert
TM	TMI	VP	Valmet Paper Lab Automated Tester
XX	Instrument make/model not specified by lab		

Grand Mean Sample GY93 = 7.6444 mils

Grand Mean Sample GY94 = 7.6141 mils



Paper & Paperboard Interlaboratory Testing Program

Analysis 364

Coefficient of Static Friction - Horizontal Plane Method - Printing Papers

TAPPI Official Test Method T549

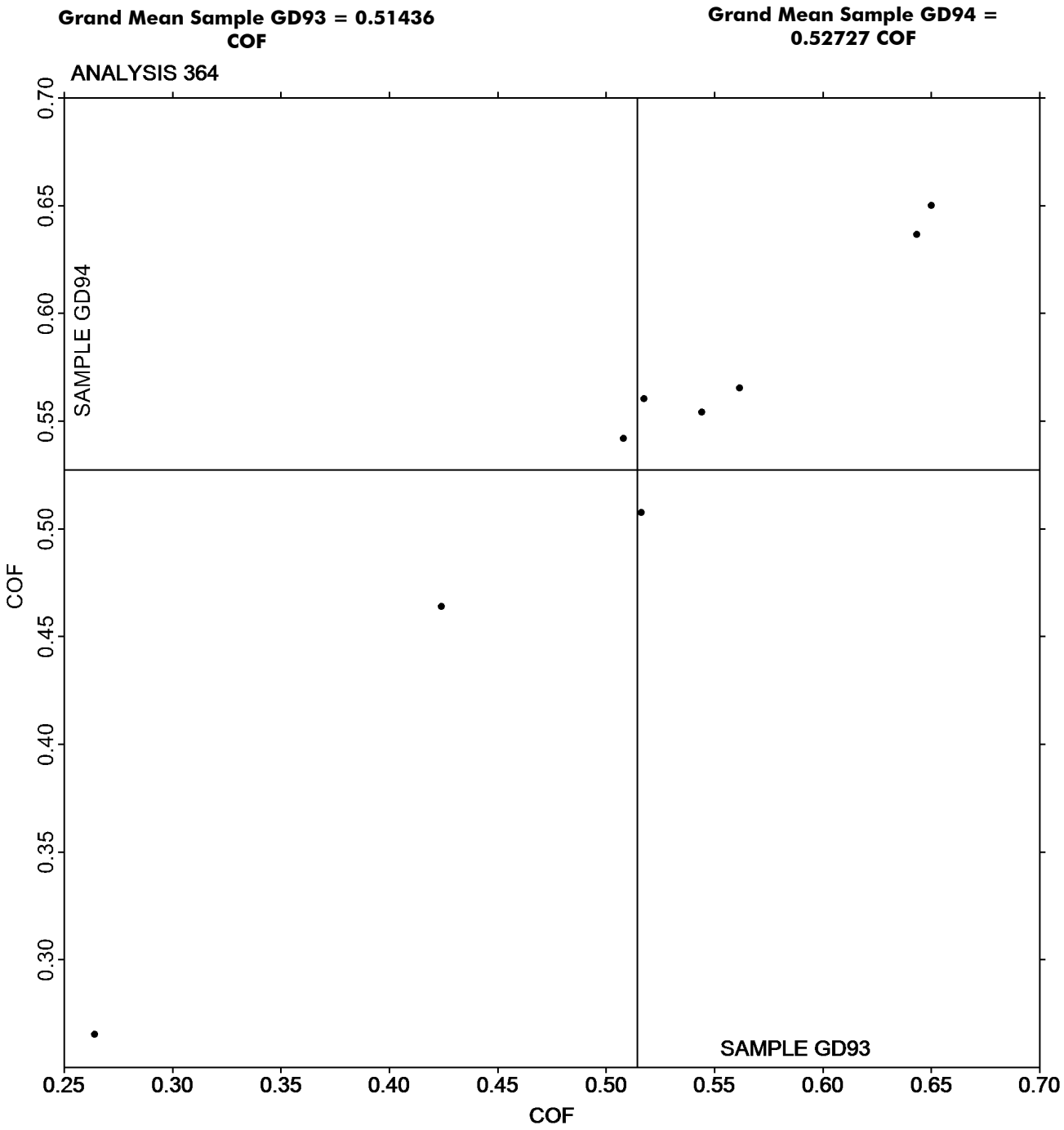
WebCode	Data Flag	Sample GD93 Lab Mean	Sample GD93 Diff from Grand Mean	Sample GD93 CPV	Sample GD94 Lab Mean	Sample GD94 Diff from Grand Mean	Sample GD94 CPV	Instr Code
2ZU7XN		0.4240	-0.0904	-0.77	0.4640	-0.0633	-0.56	TA
76DPAT		0.6434	0.1290	1.11	0.6366	0.1093	0.96	TA
7824X4		0.2642	-0.2502	-2.14	0.2652	-0.2621	-2.30	XX
86RE9Y		0.5442	0.0298	0.26	0.5542	0.0269	0.24	TA
PXR9JD		0.6500	0.1356	1.16	0.6500	0.1227	1.08	TP
Q96N6D		0.5080	-0.0064	-0.05	0.5420	0.0147	0.13	TA
UXTPMD		0.5616	0.0472	0.40	0.5654	0.0381	0.34	TA
YHLZY3		0.5162	0.0018	0.02	0.5076	-0.0197	-0.17	IT
YXFPRE		0.5176	0.0032	0.03	0.5604	0.0331	0.29	TA

Summary Statistics	Sample GD93	Sample GD94
Grand Means	0.51 COF	0.53 COF
Stnd Dev Btwn Labs	0.12 COF	0.11 COF

Statistics based on 9 of 9 reporting participants.

Key to Instrument Codes Reported by Participants

IT	IMASS SP-2100	TA	Thwing-Albert Friction Tester
TP	TMI 32-25 COF Tester (Inclined Plane)	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 365

Coefficient of Kinetic Friction - Horizontal Plane Method - Printing Papers

TAPPI Official Test Method T549

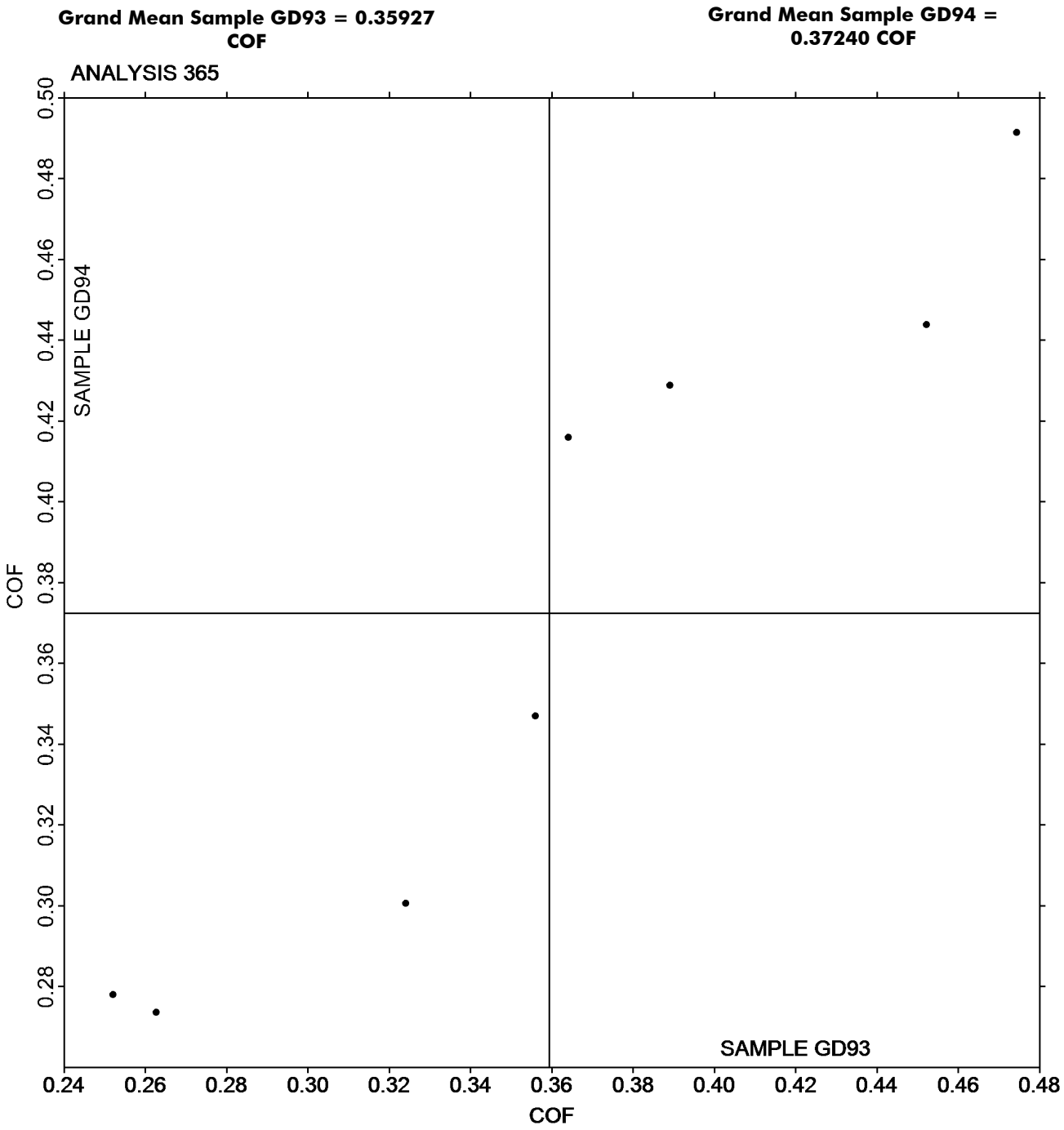
WebCode	Data Flag	Sample GD93 Lab Mean	Sample GD93 Diff from Grand Mean	Sample GD93 CPV	Sample GD94 Lab Mean	Sample GD94 Diff from Grand Mean	Sample GD94 CPV	Instr Code
2ZU7XN		0.2520	-0.1073	-1.34	0.2780	-0.0944	-1.13	TA
76DPAT		0.4744	0.1151	1.44	0.4914	0.1190	1.43	TA
7824X4		0.2626	-0.0967	-1.21	0.2736	-0.0988	-1.18	XX
86RE9Y		0.4522	0.0929	1.16	0.4438	0.0714	0.86	TN
Q96N6D		0.3640	0.0047	0.06	0.4160	0.0436	0.52	XX
UXTPMD		0.3560	-0.0033	-0.04	0.3470	-0.0254	-0.30	TA
YHLZY3		0.3240	-0.0353	-0.44	0.3006	-0.0718	-0.86	IR
YXFPRE		0.3890	0.0297	0.37	0.4288	0.0564	0.68	TA

Summary Statistics	Sample GD93	Sample GD94
Grand Means	0.36 COF	0.37 COF
Stnd Dev Btwn Labs	0.08 COF	0.08 COF

Statistics based on 8 of 8 reporting participants.

Key to Instrument Codes Reported by Participants

IR	IMASS SP-2000	TA	Thwing-Albert Friction Tester
TN	TMI 32-07 Monitor/Slip and Friction	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 370

Air Resistance - Gurley Oil Type

TAPPI Official Test Method T460

WebCode	Data Flag	Sample GE93 Lab Mean	Sample GE93 Diff from Grand Mean	Sample GE93 CPV	Sample GE94 Lab Mean	Sample GE94 Diff from Grand Mean	Sample GE94 CPV	Instr Code
22NUGJ		20.61	-0.52	-0.45	20.13	-1.01	-0.91	HG
2A69JP		20.72	-0.41	-0.35	20.14	-1.00	-0.90	HG
2C92F9		20.18	-0.95	-0.82	21.44	0.30	0.27	PP
2YLQT4		22.13	1.00	0.87	21.85	0.71	0.64	TL
2ZGAV6		21.47	0.34	0.30	21.08	-0.06	-0.05	LP
2ZU7XN		22.26	1.14	0.98	21.70	0.56	0.51	PP
6AQBFE		20.83	-0.30	-0.26	21.53	0.39	0.35	LP
6N936L	X	0.63	-20.49	-17.74	0.63	-20.51	-18.42	HG
6R8EZL		20.99	-0.13	-0.11	21.42	0.28	0.25	PP
7824X4		20.50	-0.63	-0.54	20.50	-0.64	-0.57	GS
7UV6PW		23.52	2.39	2.07	23.62	2.48	2.23	TM
7ZKM7T		21.70	0.57	0.50	22.62	1.48	1.33	LP
8QRWXR	*	21.50	0.37	0.32	23.25	2.11	1.90	TL
9G2BNM		18.27	-2.86	-2.47	19.14	-2.00	-1.80	LA
AJZ7MG		19.49	-1.64	-1.42	18.67	-2.47	-2.22	XX
AVD97T		19.88	-1.25	-1.08	19.78	-1.36	-1.22	LP
AYR94K		21.34	0.22	0.19	20.92	-0.22	-0.20	PP
BHMY2Y	*	18.32	-2.81	-2.43	19.96	-1.18	-1.06	LW
CCEVQQ	X	16.08	-5.05	-4.37	16.07	-5.07	-4.55	WG
DBDHHP		20.64	-0.49	-0.42	20.57	-0.57	-0.51	PP
DGHFRT		21.13	0.00	0.00	20.75	-0.39	-0.35	LW
DWFBM9		22.95	1.82	1.58	22.87	1.73	1.56	XX
EF3EKK		21.64	0.51	0.44	21.10	-0.04	-0.04	LA
FP9FJQ		20.52	-0.61	-0.52	20.64	-0.50	-0.45	TL
H84T7H		21.30	0.17	0.15	21.30	0.16	0.14	LW
HFAWT8		21.70	0.58	0.50	22.20	1.06	0.96	PP
HTW7EC		20.30	-0.83	-0.71	20.19	-0.95	-0.85	PP
JRJRPH		20.49	-0.64	-0.55	20.37	-0.77	-0.69	PP
JX98DP		21.96	0.83	0.72	22.39	1.25	1.12	VM
LL8PEX		20.67	-0.46	-0.39	20.13	-1.01	-0.91	LP
NN9BHN		20.99	-0.14	-0.12	20.30	-0.84	-0.75	LA
NP3YZJ		21.70	0.57	0.50	21.25	0.11	0.10	GA
P8E6NL		21.13	0.01	0.01	21.55	0.41	0.37	PP
PXR9JD		20.99	-0.14	-0.12	20.72	-0.42	-0.38	PP
Q96N6D		21.18	0.06	0.05	22.02	0.88	0.79	PP
RERV3C		20.04	-1.09	-0.94	19.78	-1.36	-1.22	LP
RFH2J3		20.49	-0.64	-0.55	20.56	-0.58	-0.52	LP
RQGUUE		19.58	-1.55	-1.34	20.00	-1.14	-1.02	LP
TL644D		22.26	1.13	0.98	22.51	1.37	1.23	PP
TRULKA		21.11	-0.02	-0.01	21.73	0.59	0.53	LP
TXYKTE		22.68	1.55	1.35	21.80	0.66	0.59	PP

Paper & Paperboard Interlaboratory Testing Program

Analysis 370

Air Resistance - Gurley Oil Type

TAPPI Official Test Method T460

WebCode	Data Flag	Sample GE93 Lab Mean	Sample GE93 Diff from Grand Mean	Sample GE93 CPV	Sample GE94 Lab Mean	Sample GE94 Diff from Grand Mean	Sample GE94 CPV	Instr Code
V4YJGA	X	7.08	-14.04	-12.16	6.84	-14.30	-12.85	HM
VY3WQ7		21.59	0.46	0.40	20.42	-0.72	-0.65	GL
XHP8L6		23.00	1.88	1.63	22.52	1.38	1.24	PP
YXFPRE		23.50	2.37	2.06	22.43	1.29	1.16	WG

Summary Statistics	Sample GE93	Sample GE94
Grand Means	21.13 sec/100 cc	21.14 sec/100 cc
Stnd Dev Btwn Labs	1.16 sec/100 cc	1.11 sec/100 cc

Statistics based on 42 of 45 reporting participants.

Comments on Assigned Data Flags for Test #370

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

V4YJGA (X) - Extreme Data.

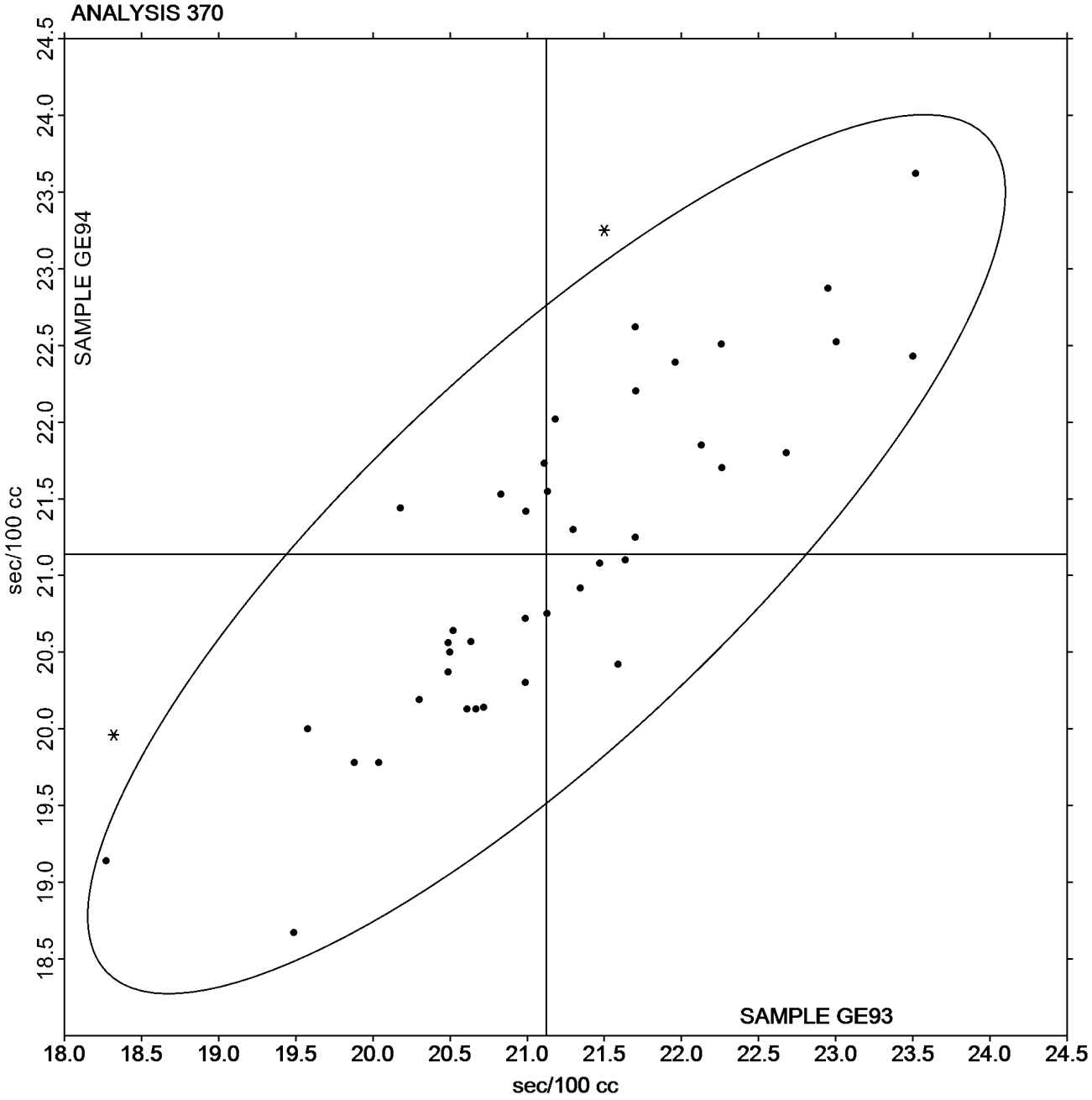
6N936L (X) - Extreme Data.

Key to Instrument Codes Reported by Participants

GA	Gurley Precision #4340 Automatic Densometer	GL	Gurley #4110
GS	Gurley-Hill S-P-S Tester #4190	HG	Technidyne - Hagerty Model #1
HM	Technidyne - Hagerty Model #538	LA	L & W Autoline
LP	L & W Densometer, Air Permeance	LW	L & W Type Gurley Densometer, Oil Flotation
PP	Technidyne Profile/Plus	TL	Gurley Densometer #4110, Oil Flotation
TM	TMI Densometer 58-03	VM	Valmet PaperLab (was Kajaani/Robotest)
WG	W & LE Gurley Tester	XX	Instrument make/model not specified by lab

Grand Mean Sample GE93 = 21.125 sec/100 cc

Grand Mean Sample GE94 = 21.139 sec/100 cc



Paper & Paperboard Interlaboratory Testing Program

Analysis 372

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

TAPPI Official Test Method T547

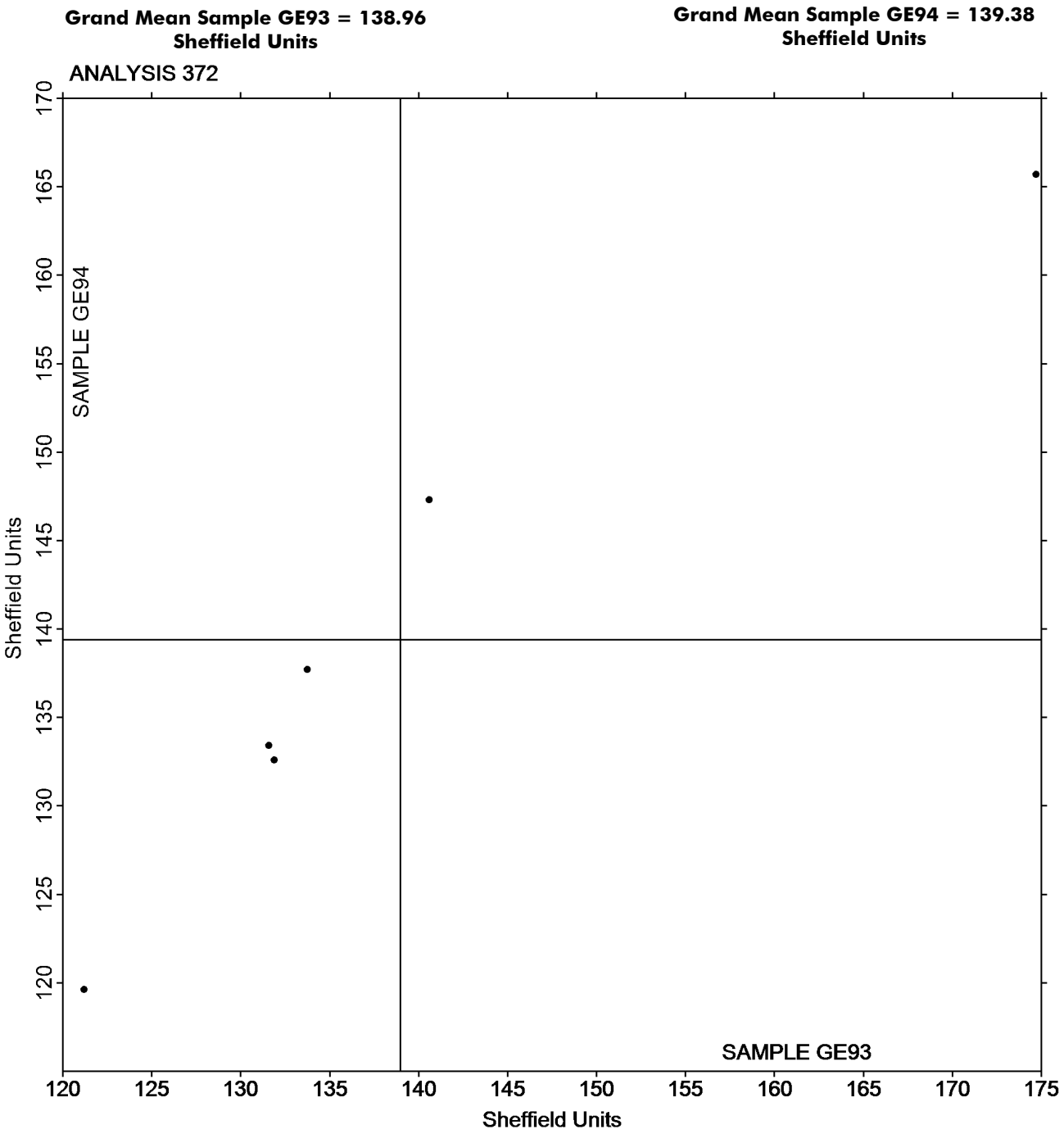
WebCode	Data Flag	Sample GE93 Lab Mean	Sample GE93 Diff from Grand Mean	Sample GE93 CPV	Sample GE94 Lab Mean	Sample GE94 Diff from Grand Mean	Sample GE94 CPV	Instr Code
2EZZU8		140.6	1.6	0.09	147.3	7.9	0.50	LA
7824X4		121.2	-17.8	-0.96	119.6	-19.8	-1.26	SH
B2FZRV		131.9	-7.1	-0.38	132.6	-6.8	-0.43	HM
JX98DP		133.8	-5.2	-0.28	137.7	-1.7	-0.11	PP
TXYKTE		131.6	-7.4	-0.40	133.4	-6.0	-0.38	PP
VGNH9C		174.7	35.7	1.92	165.7	26.3	1.68	LP

Summary Statistics	Sample GE93	Sample GE94
Grand Means	138.96 Sheffield Units	139.38 Sheffield Units
Stnd Dev Btwn Labs	18.58 Sheffield Units	15.69 Sheffield Units

Statistics based on 6 of 6 reporting participants.

Key to Instrument Codes Reported by Participants

HM	Technidyne - Hagerty Model #538	LA	L & W Roughness Sheffield - Autoline
LP	L & W Densometer, Air Permeance	PP	Technidyne Profile/Plus
SH	Sheffield		



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 376

Roughness - Print Surf Method - 0.5 to 4.0 Microns

TAPPI Official Test Method T555

WebCode	Data Flag	Sample GJ93 Lab Mean	Sample GJ93 Diff from Grand Mean	Sample GJ93 CPV	Sample GJ94 Lab Mean	Sample GJ94 Diff from Grand Mean	Sample GJ94 CPV	Instr Code
2ZGAV6		0.9420	0.0024	0.02	1.0050	0.0197	0.18	ZZ
2ZU7XN		0.9500	0.0104	0.11	1.0330	0.0477	0.43	ZZ
3LVGJ3		1.0860	0.1464	1.51	1.2550	0.2697	2.42	ZZ
43AFZK		0.7390	-0.2006	-2.07	0.8010	-0.1843	-1.65	ZZ
6N936L		1.0190	0.0794	0.82	1.0270	0.0417	0.37	ZZ
6R8EZL		0.8100	-0.1296	-1.34	0.8620	-0.1233	-1.10	ZZ
76DPAT		0.9870	0.0474	0.49	1.1530	0.1677	1.50	ZZ
8TEBM2		0.9910	0.0514	0.53	0.9790	-0.0063	-0.06	ZZ
AL37KR		0.9720	0.0324	0.33	0.9590	-0.0263	-0.24	ZZ
AYR94K		1.0270	0.0874	0.90	1.0270	0.0417	0.37	ZZ
CCGKUN		0.8930	-0.0466	-0.48	0.9100	-0.0753	-0.67	ZZ
CEJKTZ		0.8970	-0.0426	-0.44	0.8860	-0.0993	-0.89	ZZ
D69J8Y		0.9450	0.0054	0.06	1.0060	0.0207	0.19	ZZ
DHWKPR		0.8080	-0.1316	-1.36	0.8150	-0.1703	-1.53	ZZ
HFAWT8		0.8840	-0.0556	-0.57	1.0270	0.0417	0.37	ZZ
JX98DP	X	1.3550	0.4154	4.28	1.0256	0.0403	0.36	ZZ
KEC498		0.8770	-0.0626	-0.64	0.9020	-0.0833	-0.75	ZZ
M9VK2B		0.9750	0.0354	0.36	1.1080	0.1227	1.10	ZZ
P6QQZB		0.9410	0.0014	0.01	0.9830	-0.0023	-0.02	ZZ
PU4UU4		1.0290	0.0894	0.92	1.0750	0.0897	0.80	ZZ
R3WJTJ	*	1.1610	0.2214	2.28	1.0970	0.1117	1.00	ZZ
R92MGW		0.9520	0.0124	0.13	0.9690	-0.0163	-0.15	ZZ
RYDU6Z		0.8550	-0.0846	-0.87	0.8550	-0.1303	-1.17	ZZ
TW6WBJ		0.9430	0.0034	0.04	0.9340	-0.0513	-0.46	ZZ
TZK7L2		0.8860	-0.0536	-0.55	0.9100	-0.0753	-0.67	ZZ
W6P8DA		0.8670	-0.0726	-0.75	0.9710	-0.0143	-0.13	ZZ
WBU6LE		1.1130	0.1734	1.79	1.1820	0.1967	1.76	ZZ
YXFPRE		0.8200	-0.1196	-1.23	0.8710	-0.1143	-1.02	ZZ

Summary Statistics	Sample GJ93	Sample GJ94
Grand Means	0.94 Microns	0.99 Microns
Stnd Dev Btwn Labs	0.10 Microns	0.11 Microns

Statistics based on 27 of 28 reporting participants.

Comments on Assigned Data Flags for Test #376

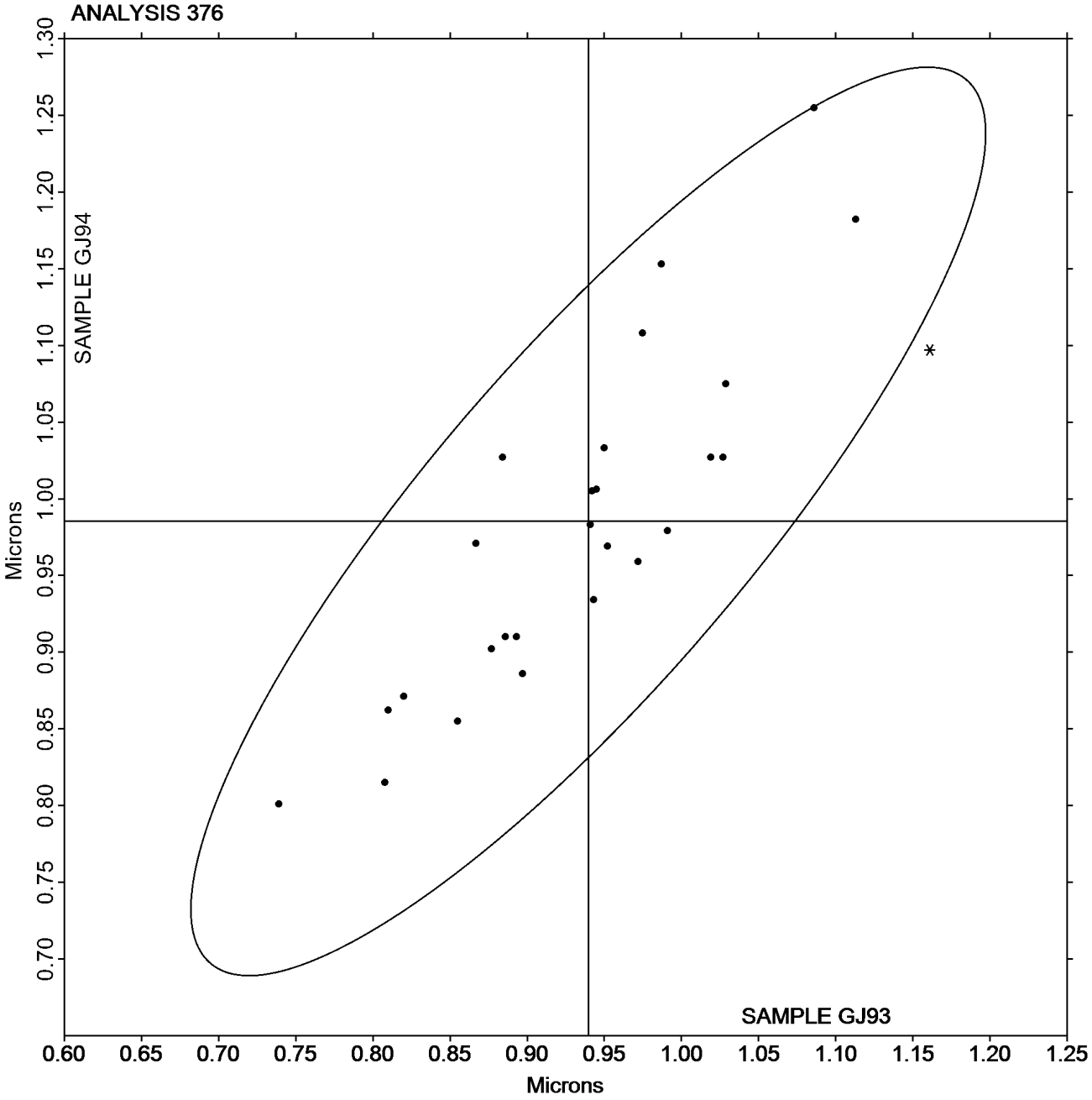
JX98DP (X) - Data for sample GJ93 are high.

Key to Instrument Codes Reported by Participants

ZZ Instruments No Longer Tracked

Grand Mean Sample GJ93 = 0.93959 Microns

Grand Mean Sample GJ94 = 0.98526 Microns



Paper & Paperboard Interlaboratory Testing Program

Analysis 377

Roughness - Print Surf Method - 2.5 to 6.0 Microns

TAPPI Official Test Method T555

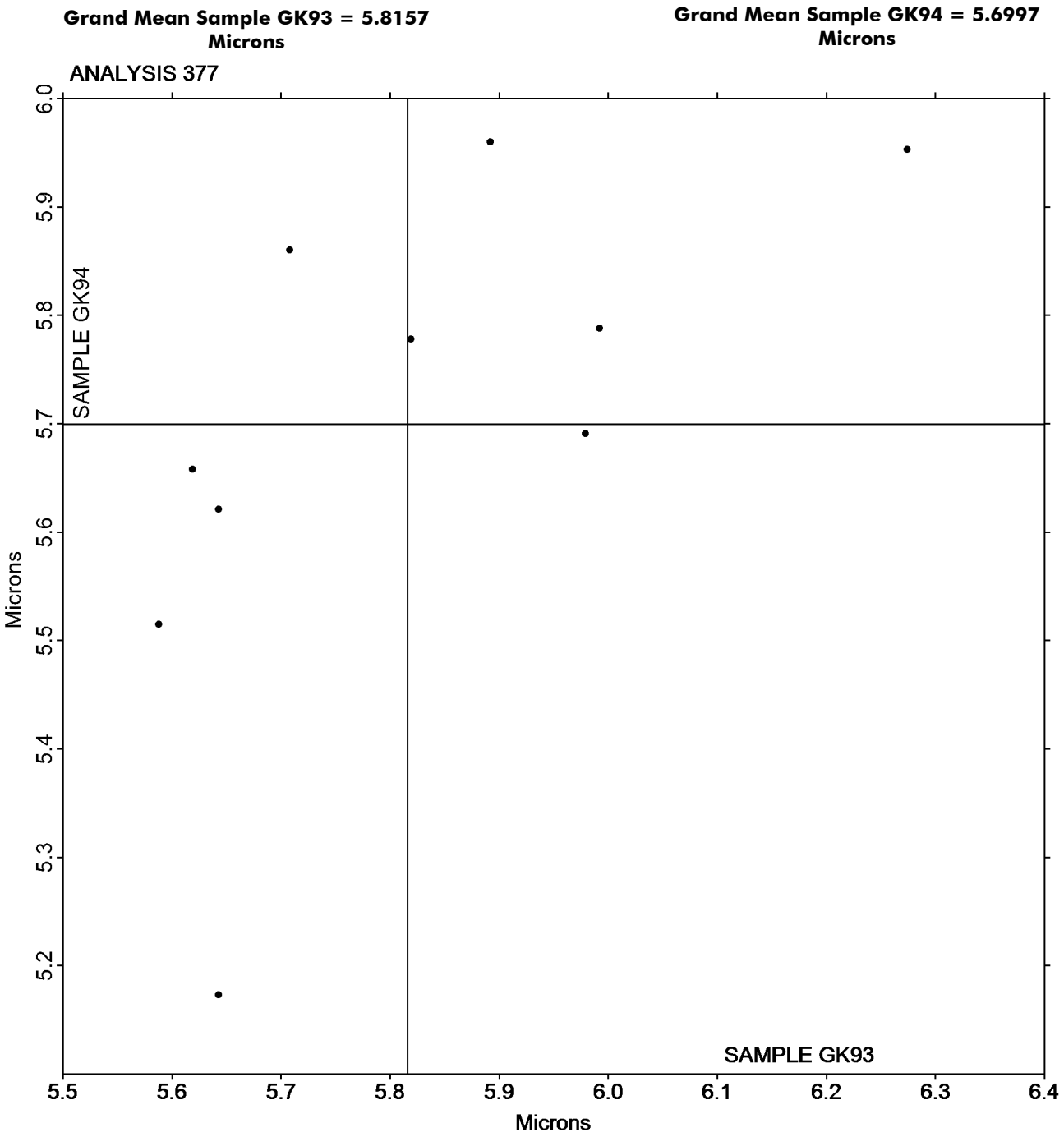
WebCode	Data Flag	Sample GK93 Lab Mean	Sample GK93 Diff from Grand Mean	Sample GK93 CPV	Sample GK94 Lab Mean	Sample GK94 Diff from Grand Mean	Sample GK94 CPV	Instr Code
86RE9Y		5.819	0.003	0.02	5.778	0.078	0.34	ZZ
DHWKPR		5.643	-0.173	-0.79	5.621	-0.079	-0.34	ZZ
HFAWT8		6.274	0.458	2.08	5.953	0.253	1.08	ZZ
JRJRPH		5.619	-0.197	-0.89	5.658	-0.042	-0.18	ZZ
NN9BHN		5.643	-0.173	-0.79	5.173	-0.527	-2.25	ZZ
PXR9JD		5.979	0.163	0.74	5.691	-0.009	-0.04	ZZ
Q96N6D		5.892	0.076	0.35	5.960	0.260	1.11	ZZ
UXTPMD		5.992	0.176	0.80	5.788	0.088	0.38	ZZ
W6P8DA		5.708	-0.108	-0.49	5.860	0.160	0.69	ZZ
YXFPRE		5.588	-0.228	-1.04	5.515	-0.185	-0.79	ZZ

Summary Statistics	Sample GK93	Sample GK94
Grand Means	5.82 Microns	5.70 Microns
Stnd Dev Btwn Labs	0.22 Microns	0.23 Microns

Statistics based on 10 of 10 reporting participants.

Key to Instrument Codes Reported by Participants

ZZ Instruments No Longer Tracked



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 378

Roughness - Sheffield Type

TAPPI Official Test Method T538

WebCode	Data Flag	Sample GL93 Lab Mean	Sample GL93 Diff from Grand Mean	Sample GL93 CPV	Sample GL94 Lab Mean	Sample GL94 Diff from Grand Mean	Sample GL94 CPV	Instr Code
22NUGJ		270.7	26.7	1.57	265.3	18.0	1.18	TS
2A69JP		237.1	-6.9	-0.40	241.2	-6.1	-0.40	HM
2C92F9		238.6	-5.4	-0.31	248.5	1.2	0.08	SH
2EZZU8		231.9	-12.1	-0.71	221.6	-25.7	-1.69	LA
2ZGAV6	*	204.1	-39.9	-2.34	202.7	-44.6	-2.93	TS
2ZU7XN		218.1	-25.9	-1.52	231.2	-16.2	-1.06	PP
43AFZK		236.5	-7.5	-0.44	233.6	-13.7	-0.90	LW
6EJCHT		242.5	-1.5	-0.09	254.0	6.7	0.44	PP
6N936L		262.2	18.2	1.07	261.8	14.5	0.95	HM
76DPAT		240.5	-3.5	-0.20	246.1	-1.2	-0.08	HM
7824X4		221.7	-22.3	-1.31	227.6	-19.7	-1.29	XX
7ZKM7T		243.6	-0.4	-0.02	230.8	-16.5	-1.08	LW
86RE9Y		249.9	5.9	0.35	249.3	2.0	0.13	LW
8TEBM2		237.0	-7.0	-0.41	237.5	-9.8	-0.64	GL
9G2BNM		254.9	10.9	0.64	242.7	-4.6	-0.30	LA
AJZ7MG	X	188.6	-55.4	-3.25	169.2	-78.1	-5.12	XX
AL37KR		262.5	18.5	1.09	262.5	15.2	0.99	LW
AYR94K		239.4	-4.5	-0.27	254.3	6.9	0.45	PP
BHMY2Y		216.5	-27.5	-1.61	219.4	-27.9	-1.83	SH
CEJKTZ		242.5	-1.4	-0.08	247.2	-0.1	-0.01	PP
D69J8Y		256.6	12.6	0.74	254.3	6.9	0.46	PP
DBDHHP		247.4	3.5	0.20	242.2	-5.1	-0.34	PP
DHWKPR		224.5	-19.5	-1.14	244.3	-3.0	-0.20	LW
FVECZ6	X	288.8	44.8	2.63	312.4	65.1	4.27	MP
H84T7H		224.9	-19.1	-1.12	228.9	-18.4	-1.21	TS
HFAWT8		249.8	5.8	0.34	248.0	0.7	0.04	LW
HTW7EC		243.7	-0.3	-0.02	247.4	0.1	0.00	LW
JRJRPH		271.0	27.0	1.58	269.6	22.2	1.46	PP
JX98DP	*	214.0	-30.0	-1.76	249.2	1.9	0.12	VM
KEC498		255.5	11.5	0.68	272.4	25.0	1.64	PP
LL8PEX	X	416.3	172.3	10.11	409.4	162.1	10.63	LW
NN9BHN		273.9	29.9	1.76	277.2	29.9	1.96	LA
NP3YZJ		257.3	13.3	0.78	266.9	19.5	1.28	GA
P8E6NL		218.0	-26.0	-1.52	243.8	-3.5	-0.23	PP
PXR9JD		258.0	14.1	0.82	252.0	4.7	0.31	PP
Q96N6D		236.2	-7.8	-0.46	250.1	2.7	0.18	PP
R92MGW	X	302.8	58.8	3.45	310.2	62.9	4.12	TT
RYDU6Z		245.2	1.2	0.07	252.8	5.5	0.36	LA
TL644D		231.8	-12.2	-0.72	252.5	5.2	0.34	PP
TW6WBJ		239.0	-4.9	-0.29	238.6	-8.8	-0.57	PP
TXYKTE		248.9	4.9	0.29	243.3	-4.0	-0.26	PP

Paper & Paperboard Interlaboratory Testing Program

Analysis 378

Roughness - Sheffield Type

TAPPI Official Test Method T538

WebCode	Data Flag	Sample GL93 Lab Mean	Sample GL93 Diff from Grand Mean	Sample GL93 CPV	Sample GL94 Lab Mean	Sample GL94 Diff from Grand Mean	Sample GL94 CPV	Instr Code
TZK7L2		248.2	4.2	0.25	248.7	1.3	0.09	PP
ULWLGY		253.8	9.8	0.57	250.0	2.7	0.18	TT
UXTPMD		242.9	-1.1	-0.06	244.1	-3.2	-0.21	PP
VGNH9C		231.8	-12.2	-0.71	226.4	-20.9	-1.37	LW
W6P8DA		245.2	1.2	0.07	251.9	4.6	0.30	LA
WX67TQ		271.6	27.6	1.62	272.5	25.2	1.65	GA
XHP8L6		238.3	-5.7	-0.33	240.7	-6.6	-0.43	PP
YXFPRE		278.5	34.5	2.03	262.5	15.2	0.99	XX
ZUU8AT		266.4	22.4	1.32	269.7	22.4	1.47	TT

Summary Statistics	Sample GL93	Sample GL94
Grand Means	243.96 Sheffield	247.33 Sheffield
Stnd Dev Btwn Labs	17.05 Sheffield	15.25 Sheffield

Statistics based on 46 of 50 reporting participants.

Comments on Assigned Data Flags for Test #378

LL8PEX (X) - Extreme Data.

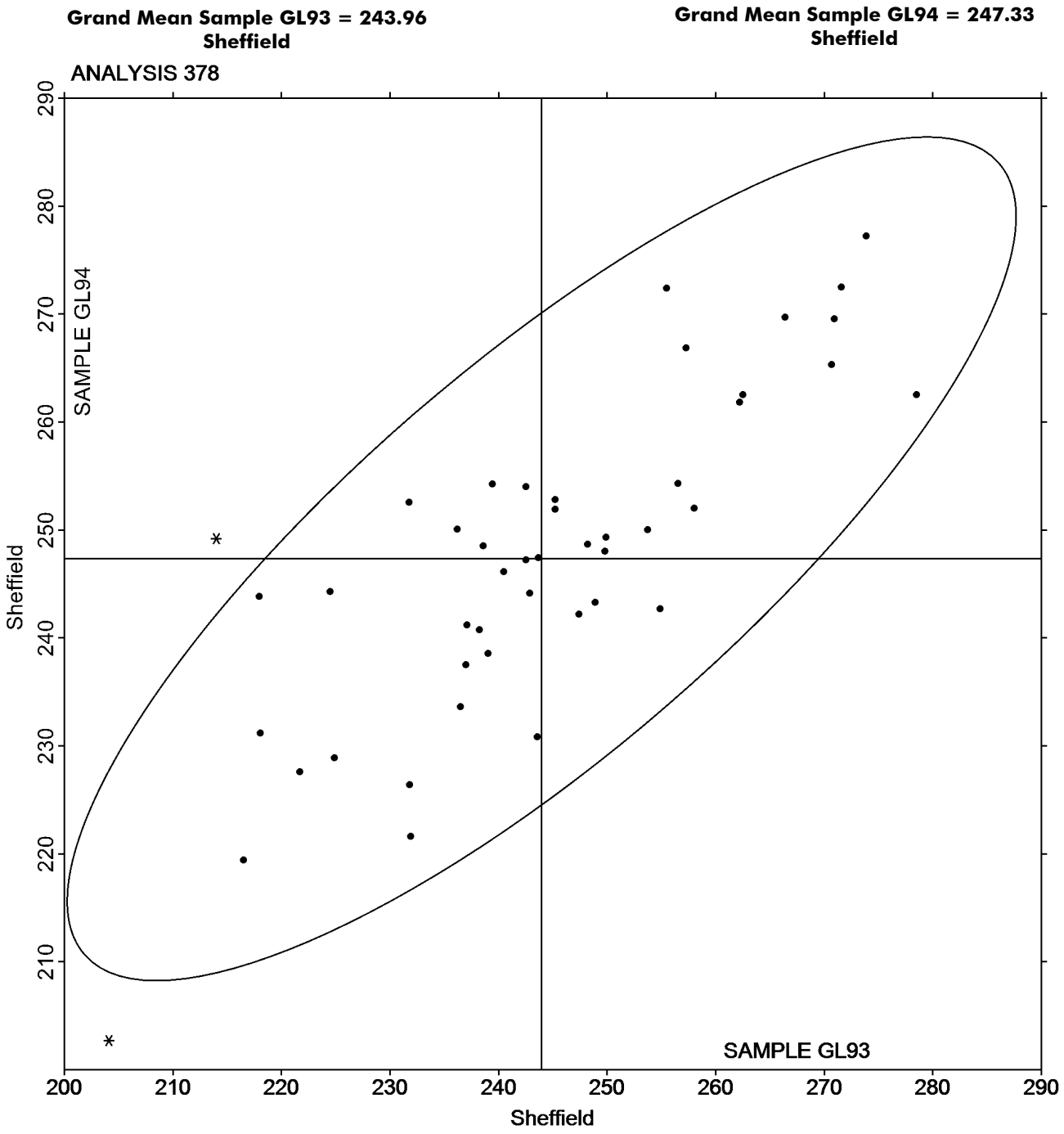
FVECZ6 (X) - Data for sample GL94 are high. Inconsistent within the determinations of sample GL94.

R92MGW (X) - Data for both samples are high. Possible Systematic Error.

AJZ7MG (X) - Data for both samples are low. Possible Systematic Error.

Key to Instrument Codes Reported by Participants

GA	Gurley Precision #4340 Automatic Densometer	GL	Giddings and Lewis Sheffield
HM	Technidyne - Hagerty Model #538	LA	L & W Roughness Sheffield - Autoline
LW	L & W Roughness Tester	MP	Metso Paperlab
PP	Technidyne Profile/Plus	SH	Sheffield (Bendix Precisionaire)
TS	TMI Monitor/Smoothness, Model 58-02	TT	TMI Monitor/Smoothness II, Model 58-24
VM	Valmet PaperLab (was Kajaani\Robotest)	XX	Instrument make/model not specified by lab



Paper & Paperboard Interlaboratory Testing Program

Analysis 382
Moisture in Paper
TAPPI Official Test Method T412

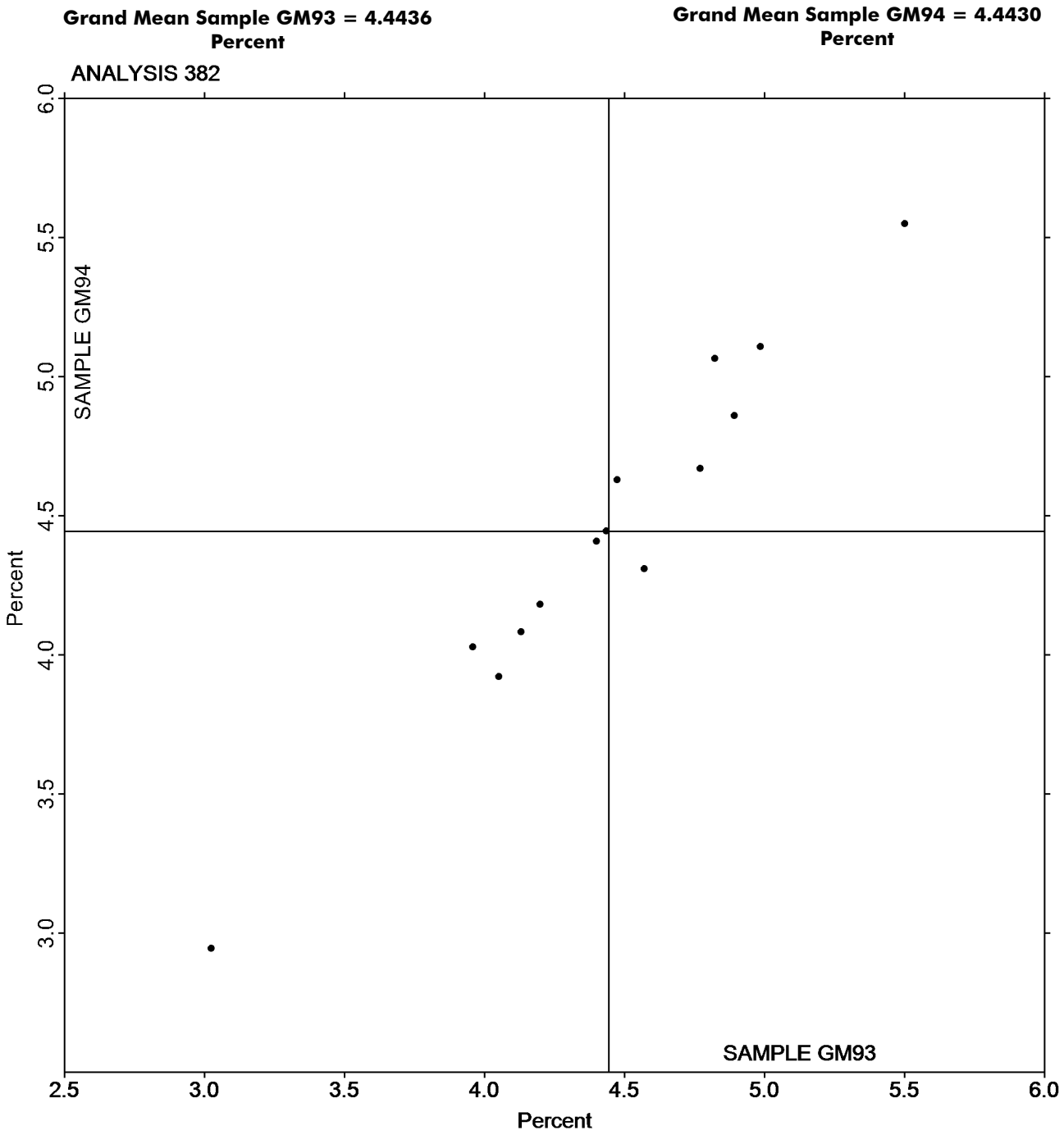
WebCode	Data Flag	Sample GM93 Lab Mean	Sample GM93 Diff from Grand Mean	Sample GM93 CPV	Sample GM94 Lab Mean	Sample GM94 Diff from Grand Mean	Sample GM94 CPV	Instr Code
2HZ7BX		4.770	0.326	0.56	4.670	0.227	0.36	ZZ
34AVXR		3.958	-0.486	-0.83	4.028	-0.415	-0.66	ZZ
37GB7H		4.198	-0.246	-0.42	4.181	-0.262	-0.41	ZZ
396PVT		5.500	1.056	1.81	5.550	1.107	1.75	ZZ
7A8NHW		3.025	-1.418	-2.43	2.946	-1.497	-2.36	ZZ
B2FZRV		4.892	0.448	0.77	4.859	0.416	0.66	ZZ
LL8PEX		4.130	-0.314	-0.54	4.082	-0.361	-0.57	ZZ
PY444K		4.570	0.126	0.22	4.310	-0.133	-0.21	ZZ
Q2JXEB		4.051	-0.393	-0.67	3.922	-0.521	-0.82	ZZ
Q96N6D		4.474	0.031	0.05	4.629	0.186	0.29	ZZ
R92MGW		4.985	0.541	0.93	5.108	0.665	1.05	ZZ
WBU6LE		4.401	-0.043	-0.07	4.408	-0.036	-0.06	ZZ
YNAMRM		4.435	-0.009	-0.01	4.445	0.002	0.00	ZZ
Z4YCZP		4.822	0.378	0.65	5.066	0.623	0.98	ZZ

Summary Statistics	Sample GM93	Sample GM94
Grand Means	4.44 Percent	4.44 Percent
Stnd Dev Btwn Labs	0.58 Percent	0.63 Percent

Statistics based on 14 of 14 reporting participants.

Key to Instrument Codes Reported by Participants

ZZ Instruments No Longer Tracked



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 384

Opacity (89% Reflectance Backing) - Fine Papers

TAPPI Official Test Method T425

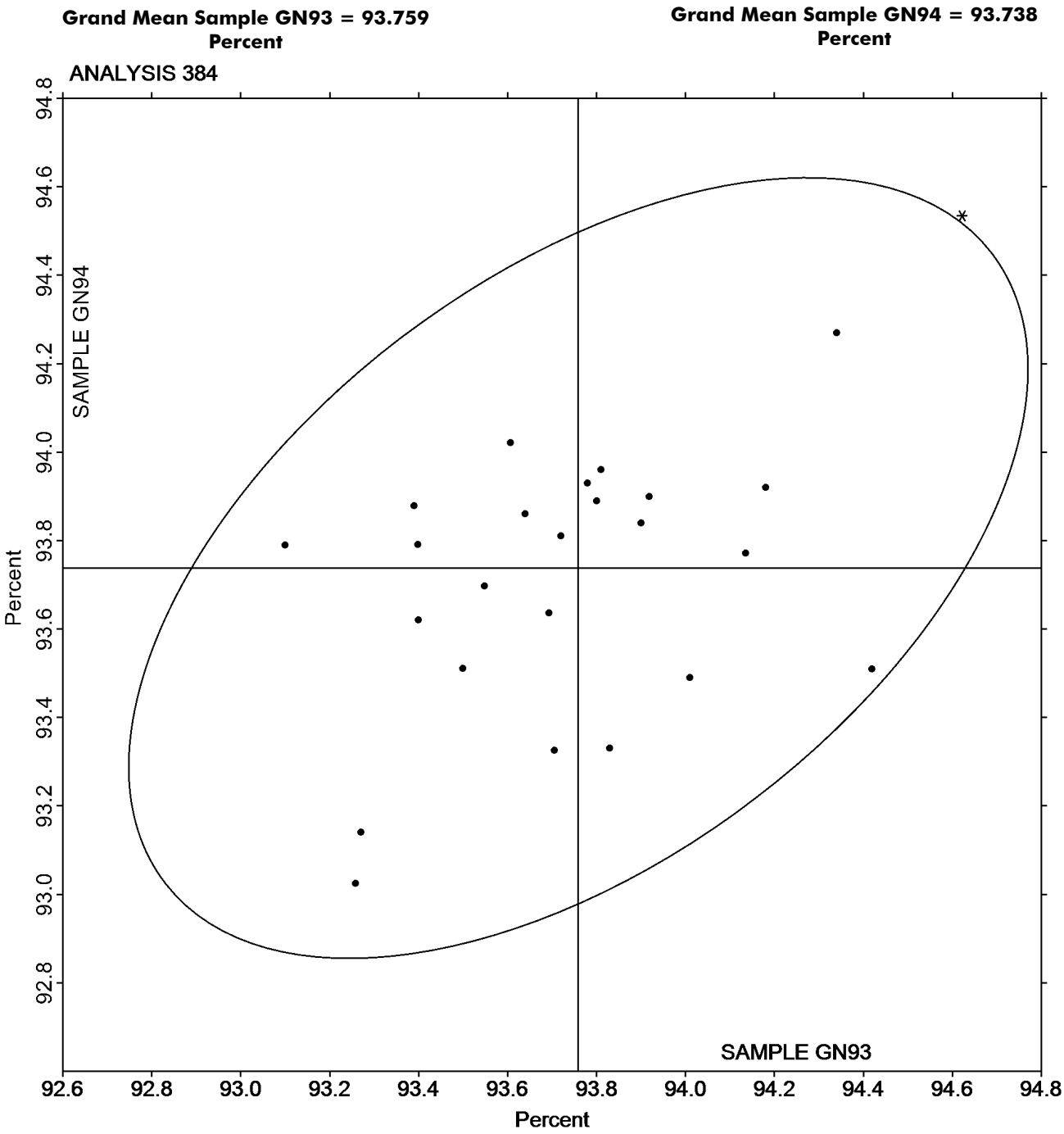
WebCode	Data Flag	Sample GN93 Lab Mean	Sample GN93 Diff from Grand Mean	Sample GN93 CPV	Sample GN94 Lab Mean	Sample GN94 Diff from Grand Mean	Sample GN94 CPV	Instr Code
22NUGJ		93.81	0.05	0.13	93.96	0.22	0.67	ZZ
2A69JP		93.83	0.07	0.19	93.33	-0.41	-1.24	ZZ
2C92F9		93.72	-0.04	-0.10	93.81	0.07	0.22	ZZ
2EZZU8		93.50	-0.26	-0.68	93.51	-0.23	-0.69	ZZ
2ZU7XN		94.42	0.66	1.75	93.51	-0.23	-0.69	ZZ
6EJCHT		93.90	0.14	0.37	93.84	0.10	0.31	ZZ
6N936L		93.64	-0.12	-0.31	93.86	0.12	0.37	ZZ
6R8EZL		93.10	-0.66	-1.74	93.79	0.05	0.16	ZZ
76DPAT		94.18	0.42	1.11	93.92	0.18	0.55	ZZ
7824X4		93.40	-0.36	-0.95	93.62	-0.12	-0.36	ZZ
8HFFN7		93.69	-0.07	-0.17	93.64	-0.10	-0.31	ZZ
DBDHHP		94.01	0.25	0.66	93.49	-0.25	-0.75	ZZ
H84T7H		93.78	0.02	0.06	93.93	0.19	0.58	ZZ
JRJRPH		93.26	-0.50	-1.32	93.02	-0.71	-2.16	ZZ
NN9BHN	*	94.62	0.86	2.28	94.53	0.80	2.41	ZZ
P6QQZB		93.61	-0.15	-0.40	94.02	0.28	0.86	ZZ
PU4UU4		93.39	-0.37	-0.98	93.88	0.14	0.43	ZZ
PXR9JD		93.55	-0.21	-0.56	93.70	-0.04	-0.12	ZZ
Q96N6D		93.92	0.16	0.42	93.90	0.16	0.49	ZZ
RQGUUE		93.80	0.04	0.11	93.89	0.15	0.46	ZZ
TL644D		94.14	0.38	0.99	93.77	0.03	0.10	ZZ
TXYKTE		93.27	-0.49	-1.29	93.14	-0.60	-1.81	ZZ
UXTPMD		93.40	-0.36	-0.95	93.79	0.05	0.16	ZZ
UY72N4		94.34	0.58	1.54	94.27	0.53	1.61	ZZ
XHP8L6		93.71	-0.05	-0.14	93.33	-0.41	-1.25	ZZ

Summary Statistics	Sample GN93	Sample GN94
Grand Means	93.76 Percent	93.74 Percent
Stnd Dev Btwn Labs	0.38 Percent	0.33 Percent

Statistics based on 25 of 25 reporting participants.

Key to Instrument Codes Reported by Participants

ZZ Instruments No Longer Tracked



Paper & Paperboard Interlaboratory Testing Program

Analysis 386

Opacity (Paper Backing) - Fine Papers and Newsprint

TAPPI Official Test Method T519

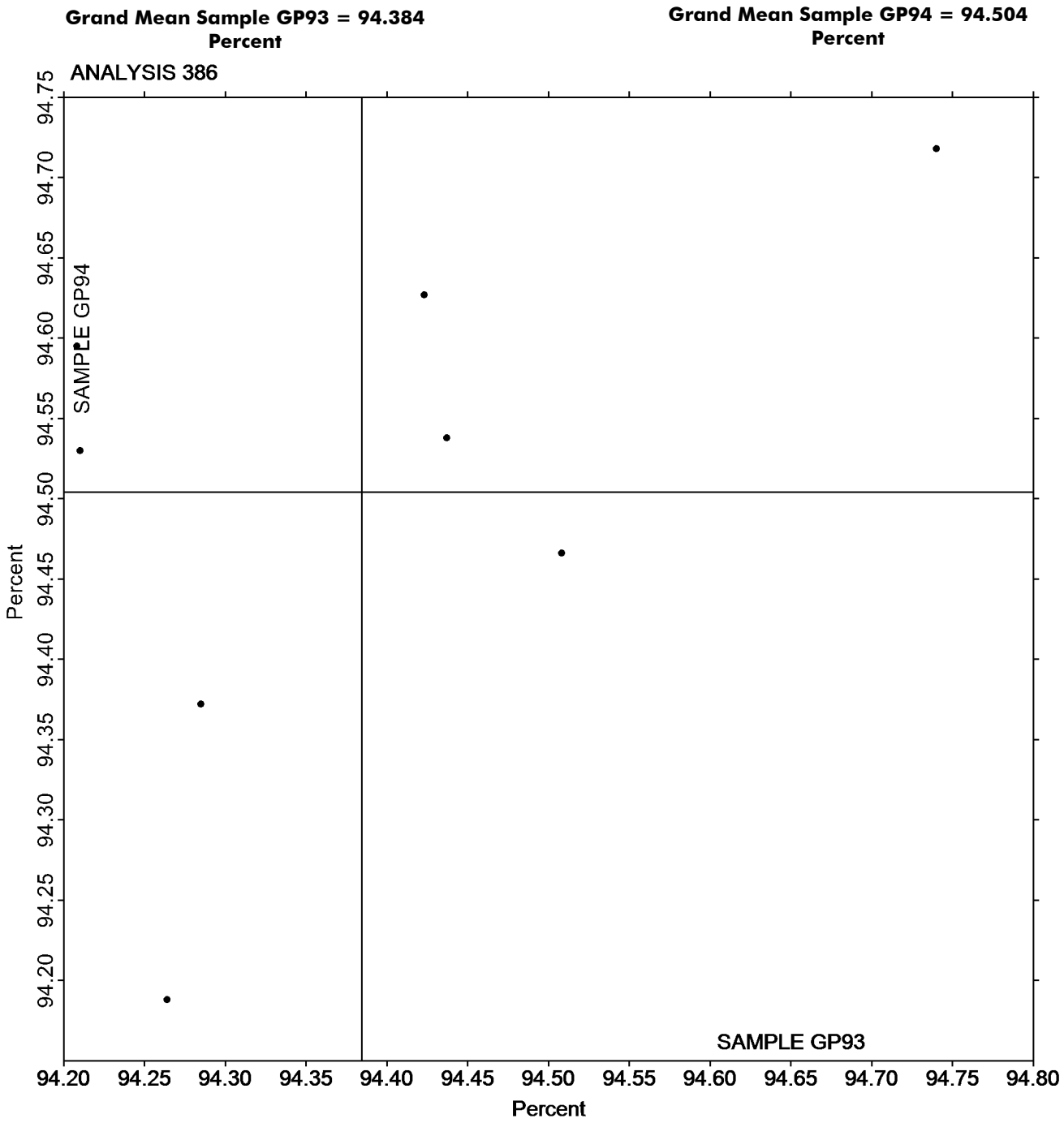
WebCode	Data Flag	Sample GP93 Lab Mean	Sample GP93 Diff from Grand Mean	Sample GP93 CPV	Sample GP94 Lab Mean	Sample GP94 Diff from Grand Mean	Sample GP94 CPV	Instr Code
AVD97T		94.21	-0.18	-0.97	94.60	0.09	0.55	ZZ
DGHFRT		94.42	0.04	0.21	94.63	0.12	0.75	ZZ
FP9FJQ		94.21	-0.17	-0.96	94.53	0.03	0.16	ZZ
LL8PEX		94.51	0.12	0.68	94.47	-0.04	-0.23	ZZ
R3WJTJ		94.44	0.05	0.29	94.54	0.03	0.20	ZZ
RFH2J3		94.74	0.36	1.95	94.72	0.21	1.30	ZZ
VGNH9C		94.29	-0.10	-0.55	94.37	-0.13	-0.80	ZZ
WYZNWD		94.26	-0.12	-0.66	94.19	-0.32	-1.92	ZZ

Summary Statistics	Sample GP93	Sample GP94
Grand Means	94.38 Percent	94.50 Percent
Stnd Dev Btwn Labs	0.18 Percent	0.16 Percent

Statistics based on 8 of 8 reporting participants.

Key to Instrument Codes Reported by Participants

ZZ Instruments No Longer Tracked



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 390
Directional Brightness
TAPPI Official Test Method T452

WebCode	Data Flag	Sample GR93 Lab Mean	Sample GR93 Diff from Grand Mean	Sample GR93 CPV	Sample GR94 Lab Mean	Sample GR94 Diff from Grand Mean	Sample GR94 CPV	Instr Code
22NUGJ		85.31	-0.93	-1.01	85.19	-1.10	-1.13	TS
2ZU7XN		88.31	2.07	2.23	88.42	2.13	2.18	PP
6EJCHT		86.28	0.03	0.03	86.54	0.25	0.26	XX
6R8EZL		85.76	-0.49	-0.53	85.81	-0.47	-0.49	TP
76DPAT		85.50	-0.74	-0.80	85.50	-0.79	-0.81	TS
7824X4		85.34	-0.90	-0.98	85.21	-1.07	-1.10	PE
8TEBM2	X	68.54	-17.71	-19.13	68.51	-17.78	-18.23	TS
AGWFHL		87.48	1.23	1.33	87.41	1.12	1.15	TD
AJZ7MG	X	71.60	-14.65	-15.82	71.59	-14.70	-15.07	XX
AL37KR		85.52	-0.73	-0.79	85.59	-0.70	-0.72	HZ
CEJKTZ		85.70	-0.55	-0.59	85.70	-0.59	-0.60	HG
D69J8Y		85.55	-0.70	-0.75	85.51	-0.78	-0.80	HG
DBDHHP		85.76	-0.48	-0.52	85.64	-0.65	-0.67	TT
DHWKPR		84.98	-1.27	-1.37	84.95	-1.34	-1.37	TT
HFAWT8		86.83	0.59	0.64	86.92	0.63	0.65	HG
KEC498		86.96	0.72	0.78	86.88	0.59	0.60	TT
NN9BHN		86.17	-0.08	-0.08	86.44	0.15	0.15	TS
TL644D	X	85.67	-0.58	-0.62	87.40	1.11	1.14	TP
TW6WBJ		87.34	1.09	1.18	87.40	1.11	1.14	TT
TXYKTE		86.36	0.12	0.12	86.68	0.39	0.40	XC
TZK7L2		87.27	1.03	1.11	87.42	1.13	1.16	TS

Summary Statistics	Sample GR93	Sample GR94
Grand Means	86.24 Percent	86.29 Percent
Stnd Dev Btwn Labs	0.93 Percent	0.98 Percent

Statistics based on 18 of 21 reporting participants.

Comments on Assigned Data Flags for Test #390

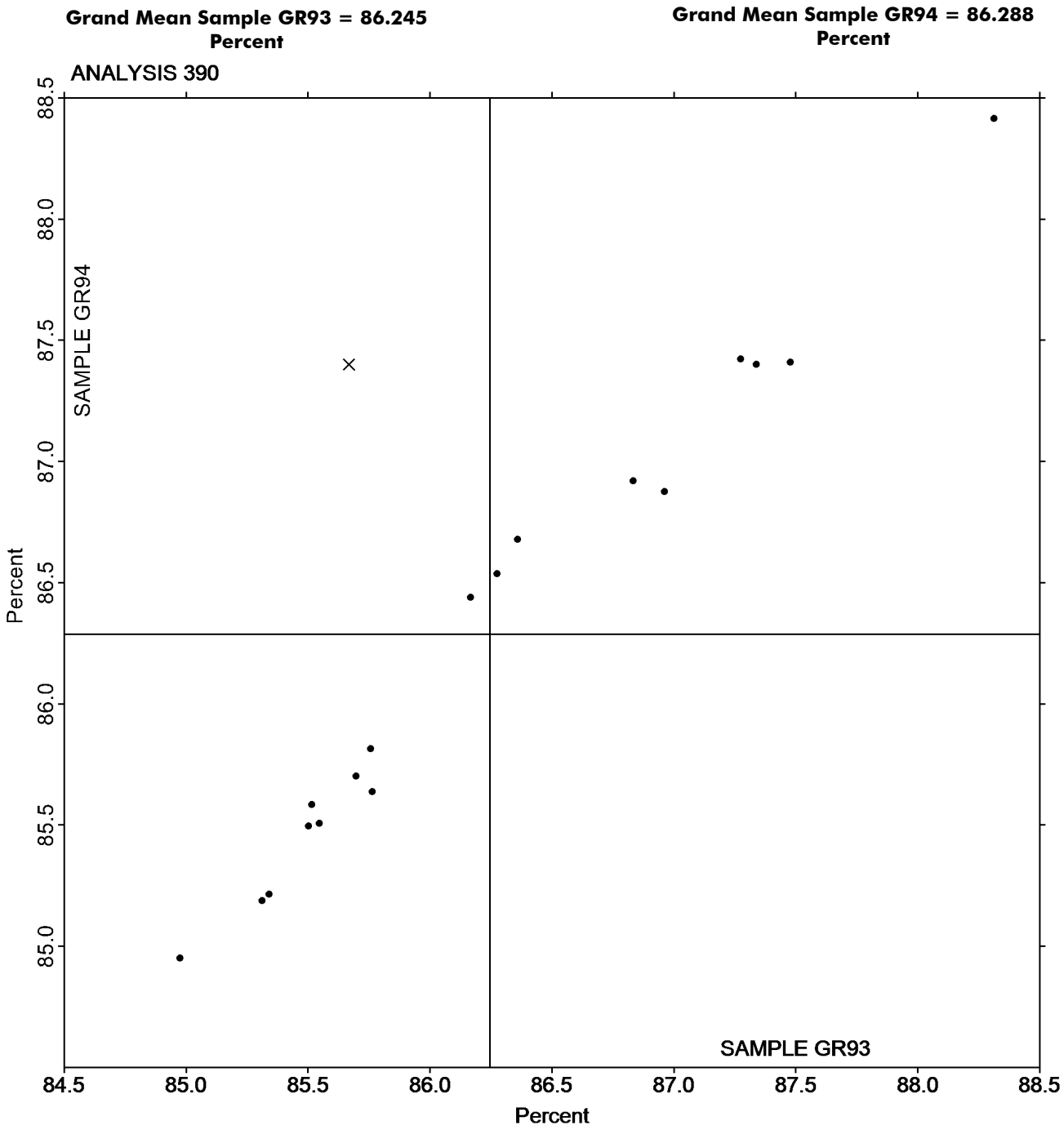
TL644D (X) - Inconsistent in testing between samples.

8TEBM2 (X) - Extreme Data.

AJZ7MG (X) - Extreme Data.

Key to Instrument Codes Reported by Participants

HG	Hunter Labscan / XE	HZ	Hunter Lab ColorFlex EZ Series
PE	Photovolt 577	PP	Technidyne Profile/Plus
TD	Technidyne Color Touch 45X	TP	Technidyne Test/Plus
TS	Technidyne Brightimeter Micro S-5	TT	Technidyne Brightimeter Micro S4-M
XC	X-Rite Color i5	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 391

Directional Brightness of Fluorescent Samples

TAPPI Official Test Method T452

WebCode	Data Flag	Sample GZ93 Lab Mean	Sample GZ93 Diff from Grand Mean	Sample GZ93 CPV	Sample GZ94 Lab Mean	Sample GZ94 Diff from Grand Mean	Sample GZ94 CPV	Instr Code
22NUGJ		98.76	0.19	0.15	97.42	0.14	0.14	TS
6N936L		98.48	-0.09	-0.08	97.04	-0.24	-0.24	TT
H84T7H		99.42	0.85	0.70	97.50	0.22	0.23	TS
JRJRPH		98.17	-0.40	-0.33	97.14	-0.14	-0.14	TS
P6QQZB		98.52	-0.06	-0.05	97.42	0.14	0.15	PP
PU4UU4		99.26	0.69	0.57	97.47	0.19	0.19	TS
PXR9JD		95.50	-3.07	-2.52	94.98	-2.30	-2.33	XX
Q96N6D		99.39	0.81	0.67	97.87	0.59	0.60	TS
QF4CHB		97.15	-1.42	-1.17	96.00	-1.28	-1.30	LE
RQGUUE		100.42	1.85	1.52	98.94	1.66	1.69	TS
TL644D		99.28	0.71	0.58	98.45	1.17	1.19	PP
UY72N4		98.12	-0.45	-0.37	97.10	-0.18	-0.18	TT
XHP8L6		98.98	0.41	0.33	97.28	0.00	0.00	PP

Summary Statistics	Sample GZ93	Sample GZ94
Grand Means	98.57 Percent	97.28 Percent
Stnd Dev Btwn Labs	1.22 Percent	0.98 Percent

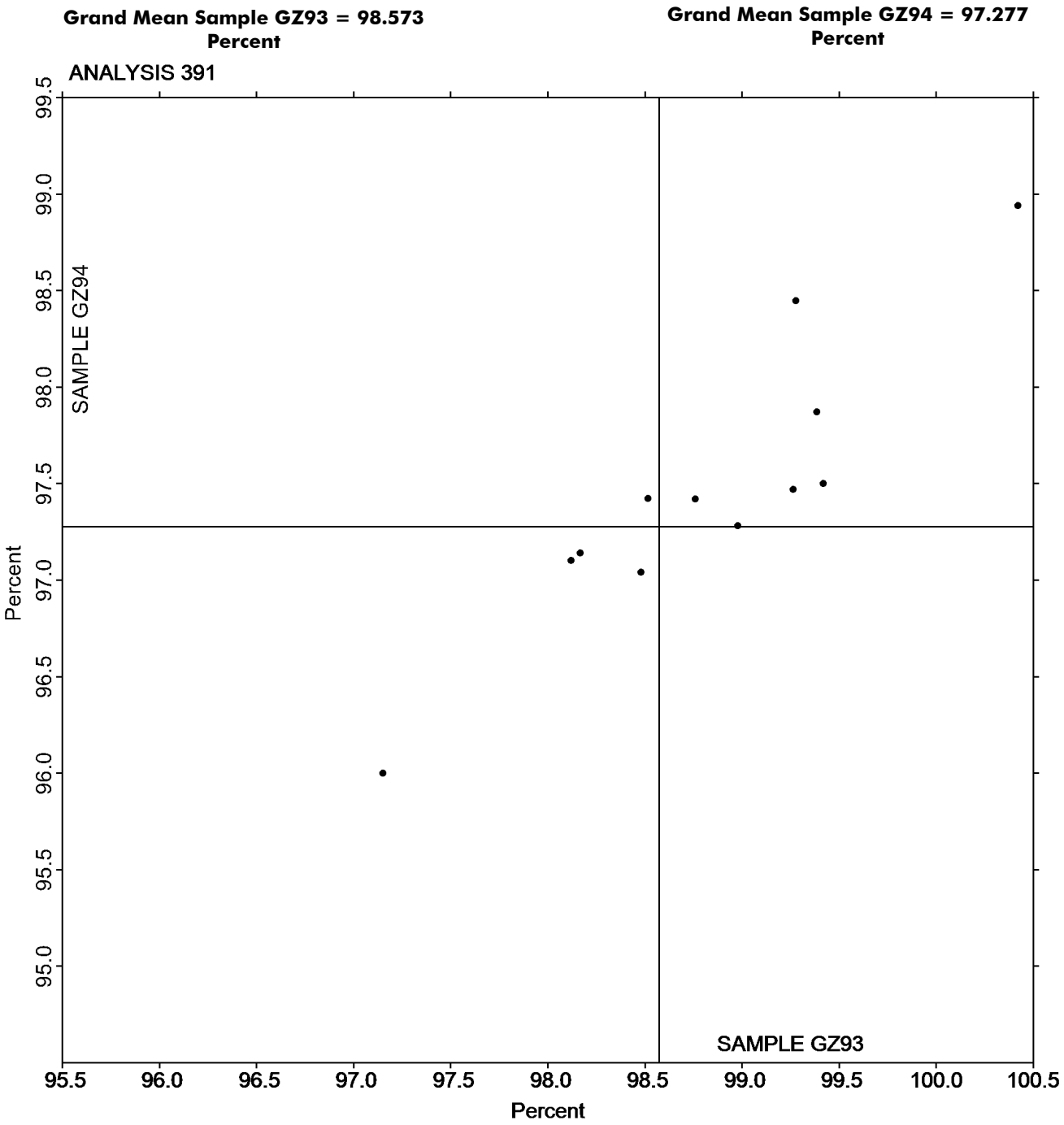
Statistics based on 13 of 13 reporting participants.

Analysis Notes:

6N936L - Data appears to be transposed between Analysis 391 (Directional Brightness) and Analysis 394 (Fluorescent Component). Data switched by CTS.

Key to Instrument Codes Reported by Participants

LE	L & W Elrepho	PP	Technidyne Profile/Plus
TS	Technidyne Brightimeter Micro S-5	TT	Technidyne Brightimeter Micro S4-M
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 392
Diffuse Brightness
TAPPI Official Test Method T525

WebCode	Data Flag	Sample GR93 Lab Mean	Sample GR93 Diff from Grand Mean	Sample GR93 CPV	Sample GR94 Lab Mean	Sample GR94 Diff from Grand Mean	Sample GR94 CPV	Instr Code
2BZQLQ	*	83.45	-2.22	-3.52	83.24	-2.40	-3.56	XX
3LVGJ3	X	68.57	-17.11	-27.13	68.47	-17.17	-25.44	TC
76DPAT		86.09	0.41	0.66	86.33	0.69	1.02	LT
7ZKM7T		85.67	0.00	0.00	85.59	-0.05	-0.08	EF
AB7Y7W	X	68.55	-17.12	-27.15	68.61	-17.03	-25.24	TC
CCGKUN		85.96	0.29	0.46	85.91	0.27	0.40	TC
DHWKPR		86.05	0.38	0.60	86.08	0.44	0.65	EG
FP9FJQ		86.54	0.87	1.38	86.54	0.90	1.33	TM
HFAWT8		85.99	0.32	0.50	85.76	0.12	0.17	TC
HN6X9K	X	68.34	-17.33	-27.49	68.19	-17.45	-25.86	TL
KEC498		85.46	-0.21	-0.33	85.43	-0.21	-0.31	LT
LL8PEX		85.65	-0.02	-0.03	85.61	-0.03	-0.05	LE
NK863H		85.64	-0.03	-0.04	85.70	0.06	0.09	TC
NN9BHN		86.03	0.36	0.58	85.97	0.33	0.49	TC
R3WJTJ		86.04	0.37	0.58	86.01	0.37	0.54	AC
R92MGW		86.04	0.37	0.59	86.06	0.42	0.62	LE
TRULKA		85.75	0.08	0.13	85.65	0.01	0.01	TC
TW6WBJ		85.49	-0.18	-0.29	85.63	-0.01	-0.02	TL
TZK7L2		85.67	0.00	-0.01	85.58	-0.06	-0.09	TC
UH3RJX		85.68	0.00	0.01	85.66	0.02	0.03	LE
VGNH9C		85.77	0.10	0.15	85.66	0.02	0.03	TC
WYZNWD		85.72	0.04	0.07	85.70	0.06	0.09	LA
XGCX9X		84.73	-0.94	-1.49	84.72	-0.92	-1.36	EG

Summary Statistics	Sample GR93	Sample GR94
Grand Means	85.67 Percent	85.64 Percent
Stnd Dev Btwn Labs	0.63 Percent	0.67 Percent

Statistics based on 20 of 23 reporting participants.

Comments on Assigned Data Flags for Test #392

HN6X9K (X) - Extreme Data.

3LVGJ3 (X) - Extreme Data.

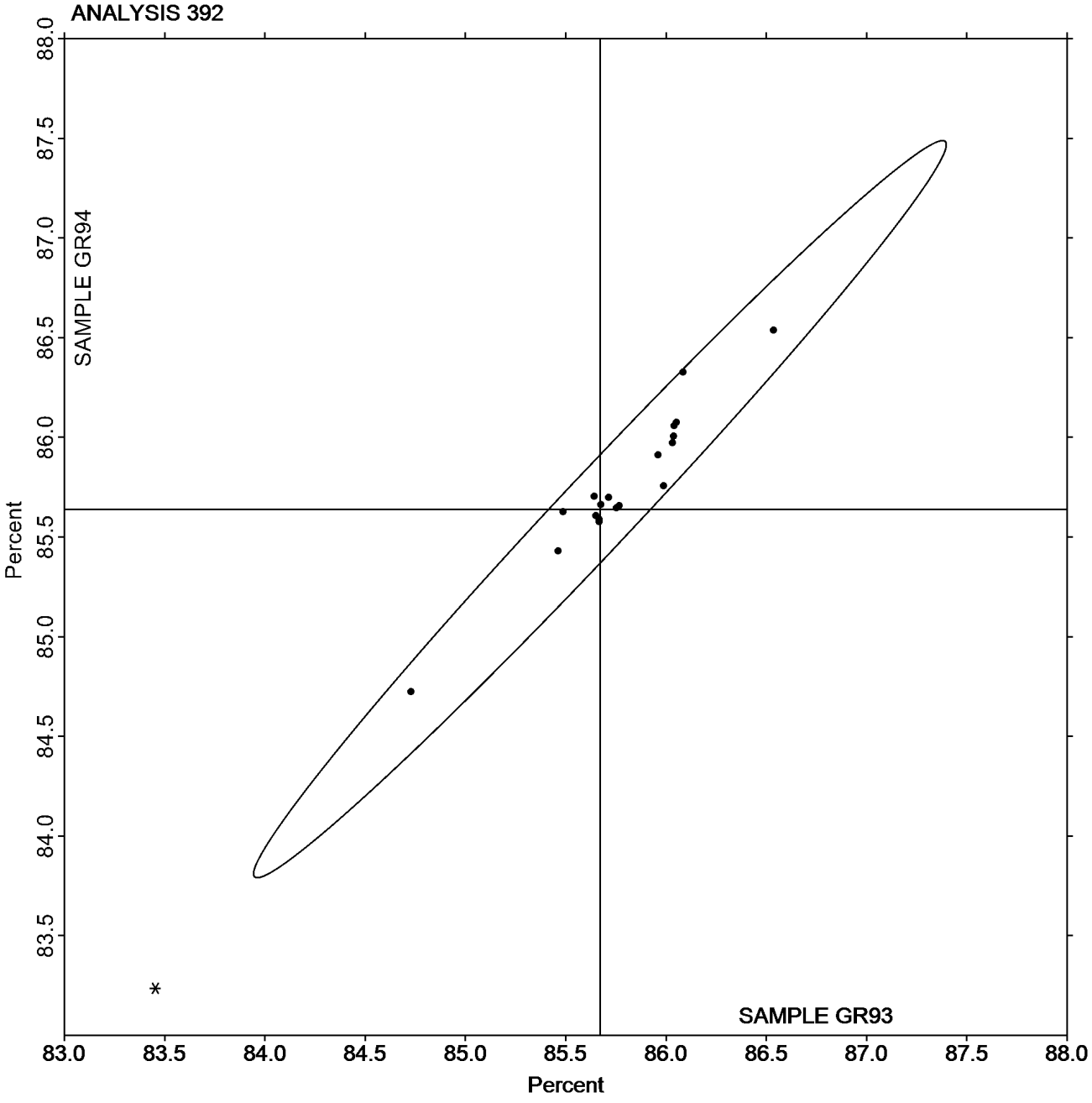
AB7Y7W (X) - Extreme Data.

Key to Instrument Codes Reported by Participants

AC	ACS Spectro-Sensor II	EF	Datacolor Elrepho 3000
EG	Datacolor Elrepho 450X	LA	L & W Elrepho - Autoline
LE	L & W Elrepho	LT	L & W Elrepho SE 071
TC	Technidyne Color Touch Series	TL	Technidyne Technibrite TB-1
TM	Technidyne Technibrite Micro TB-1C	XX	Instrument make/model not specified by lab

Grand Mean Sample GR93 = 85.670
Percent

Grand Mean Sample GR94 = 85.640
Percent



Paper & Paperboard Interlaboratory Testing Program

Analysis 394

Fluorescent Component of Directional Brightness

TAPPI Official Test Method T452

WebCode	Data Flag	Sample GZ93 Lab Mean	Sample GZ93 Diff from Grand Mean	Sample GZ93 CPV	Sample GZ94 Lab Mean	Sample GZ94 Diff from Grand Mean	Sample GZ94 CPV	Instr Code
22NUGJ		8.380	0.228	0.36	7.760	0.114	0.15	TS
6N936L		8.220	0.068	0.11	7.460	-0.186	-0.25	TT
JRJRPH		7.814	-0.338	-0.53	7.294	-0.352	-0.47	TS
P6QQZB		7.664	-0.488	-0.77	7.124	-0.522	-0.70	PP
PU4UU4		7.628	-0.524	-0.83	6.934	-0.712	-0.95	TS
PXR9JD		7.600	-0.552	-0.87	7.700	0.054	0.07	XX
Q96N6D		8.280	0.128	0.20	7.652	0.006	0.01	TS
QF4CHB		9.714	1.562	2.47	9.598	1.952	2.61	LE
RQGUUE		8.380	0.228	0.36	7.780	0.134	0.18	TS
XHP8L6		7.840	-0.312	-0.49	7.160	-0.486	-0.65	PP

Summary Statistics	Sample GZ93	Sample GZ94
Grand Means	8.15 Percent	7.65 Percent
Stnd Dev Btwn Labs	0.63 Percent	0.75 Percent

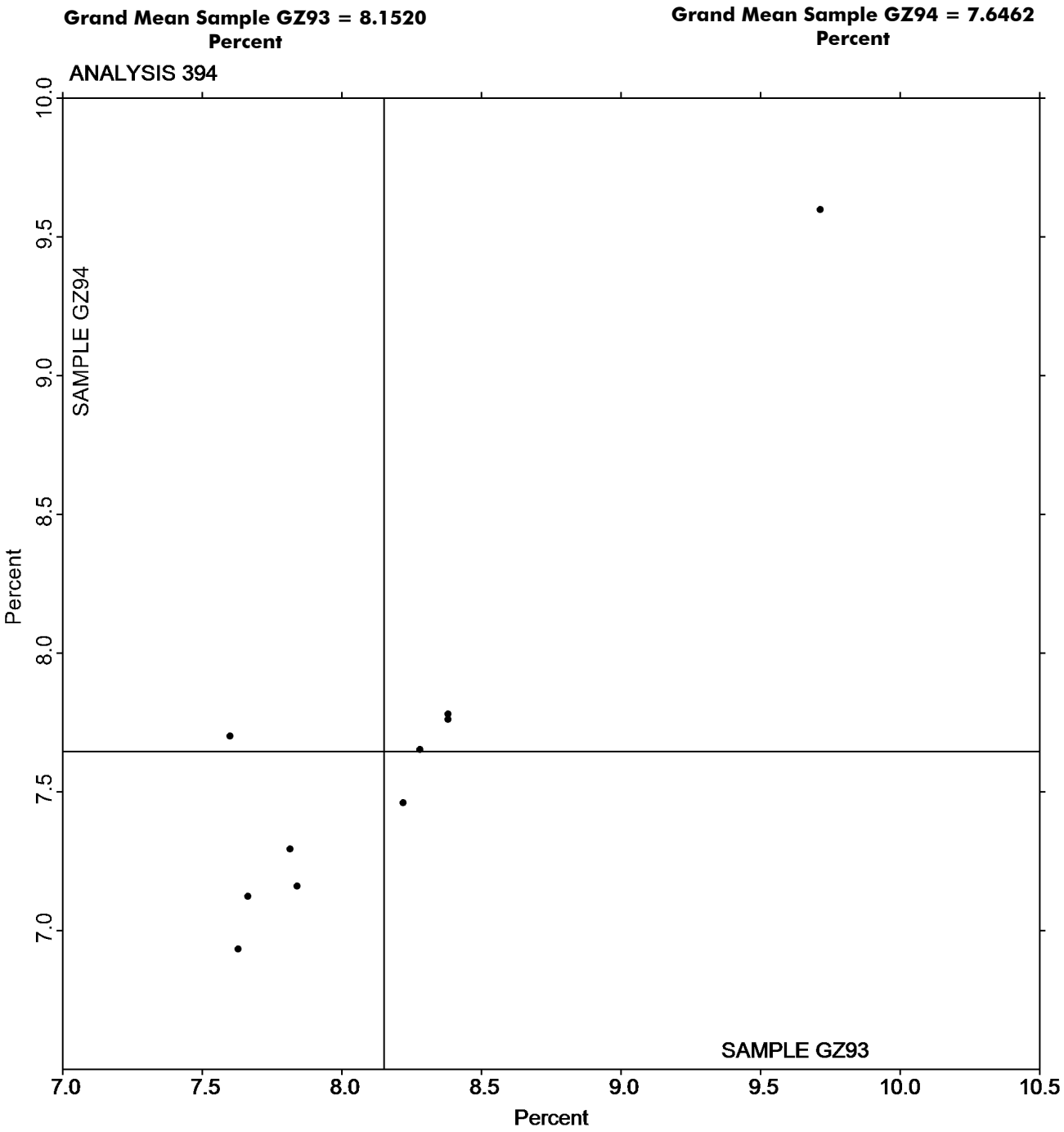
Statistics based on 10 of 10 reporting participants.

Analysis Notes:

6N936L - Data appears to be transposed between Analysis 391 (Directional Brightness) and Analysis 394 (Fluorescent Component). Data switched by CTS.

Key to Instrument Codes Reported by Participants

LE	L & W Elrepho	PP	Technidyne Profile/Plus
TS	Technidyne Brightimeter Micro S-5	TT	Technidyne Brightimeter Micro S4-M
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 395

Specular Gloss at 75 Degrees - High Range

TAPPI Official Test Method T480

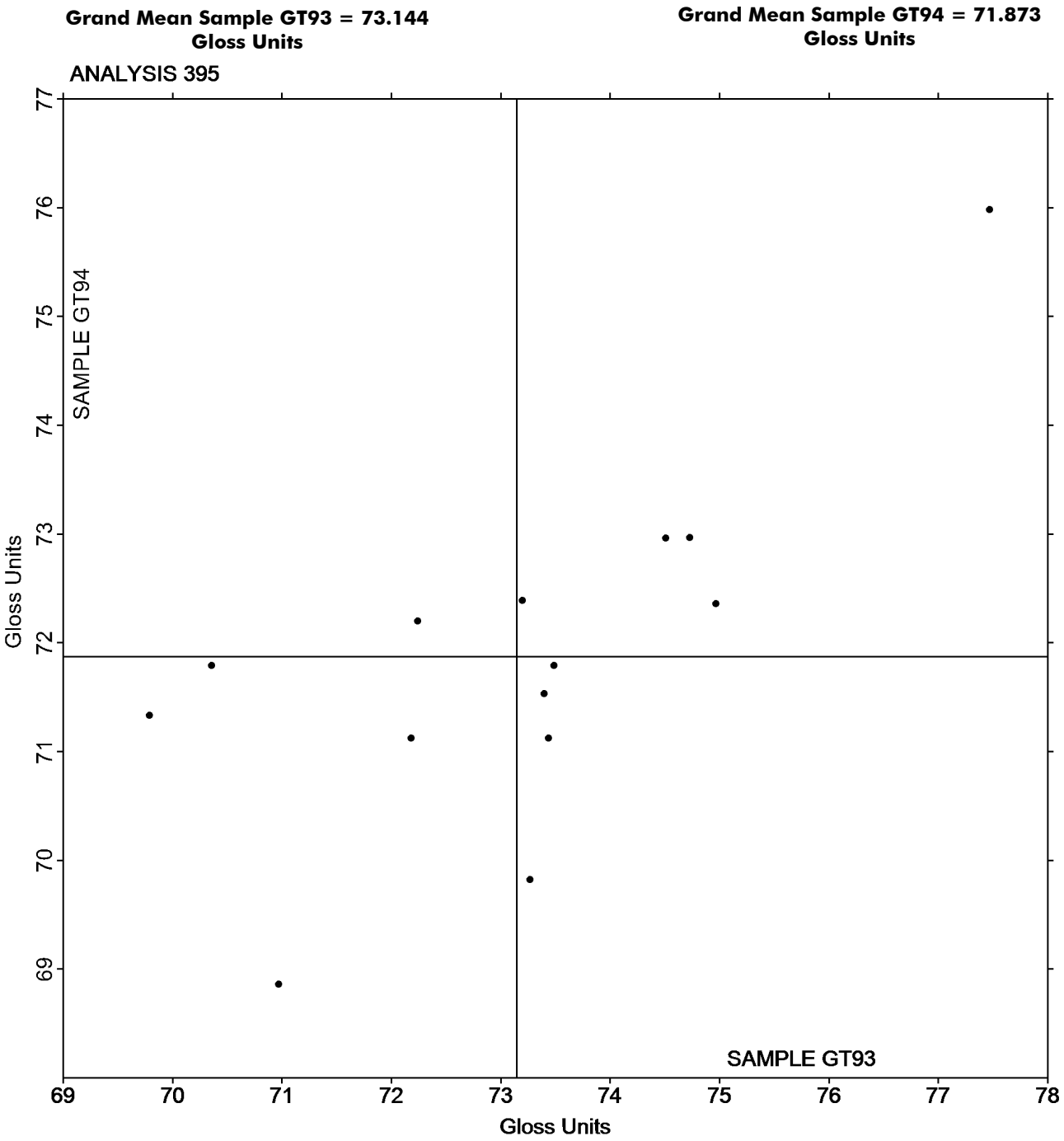
WebCode	Data Flag	Sample GT93 Lab Mean	Sample GT93 Diff from Grand Mean	Sample GT93 CPV	Sample GT94 Lab Mean	Sample GT94 Diff from Grand Mean	Sample GT94 CPV	Instr Code
2ZGAV6		70.97	-2.17	-1.09	68.86	-3.01	-1.84	XX
6N936L		72.18	-0.96	-0.48	71.12	-0.75	-0.46	PP
6R8EZL		74.73	1.59	0.79	72.97	1.09	0.67	TH
CEJKTZ		72.24	-0.90	-0.45	72.20	0.33	0.20	PP
D69J8Y		69.79	-3.35	-1.67	71.33	-0.54	-0.33	PP
DHWKPR		74.51	1.37	0.68	72.96	1.09	0.67	TH
JX98DP		73.40	0.26	0.13	71.53	-0.34	-0.21	GM
KEC498		70.36	-2.78	-1.39	71.79	-0.08	-0.05	GA
P6QQZB		73.44	0.30	0.15	71.12	-0.75	-0.46	PP
PU4UU4		73.27	0.13	0.06	69.82	-2.05	-1.26	LF
R3WJTJ		74.97	1.83	0.91	72.36	0.49	0.30	LB
RYDU6Z		77.47	4.33	2.16	75.98	4.11	2.51	LF
TW6WBJ		73.20	0.06	0.03	72.39	0.52	0.32	GM
W6P8DA		73.49	0.35	0.17	71.79	-0.08	-0.05	LA

Summary Statistics	Sample GT93	Sample GT94
Grand Means	73.14 Gloss Units	71.87 Gloss Units
Stnd Dev Btwn Labs	2.00 Gloss Units	1.63 Gloss Units

Statistics based on 14 of 14 reporting participants.

Key to Instrument Codes Reported by Participants

GA	BYK-Gardner (model not specified)	GM	BYK-Gardner micro-gloss
LA	L & W Gloss - Autoline 300	LB	L & W Gloss Tester Code 224
LF	L & W Autoline 400	PP	Technidyne Profile/Plus
TH	Technidyne T480A	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 396

Specular Gloss at 75 Degrees - Low Range

TAPPI Official Test Method T480

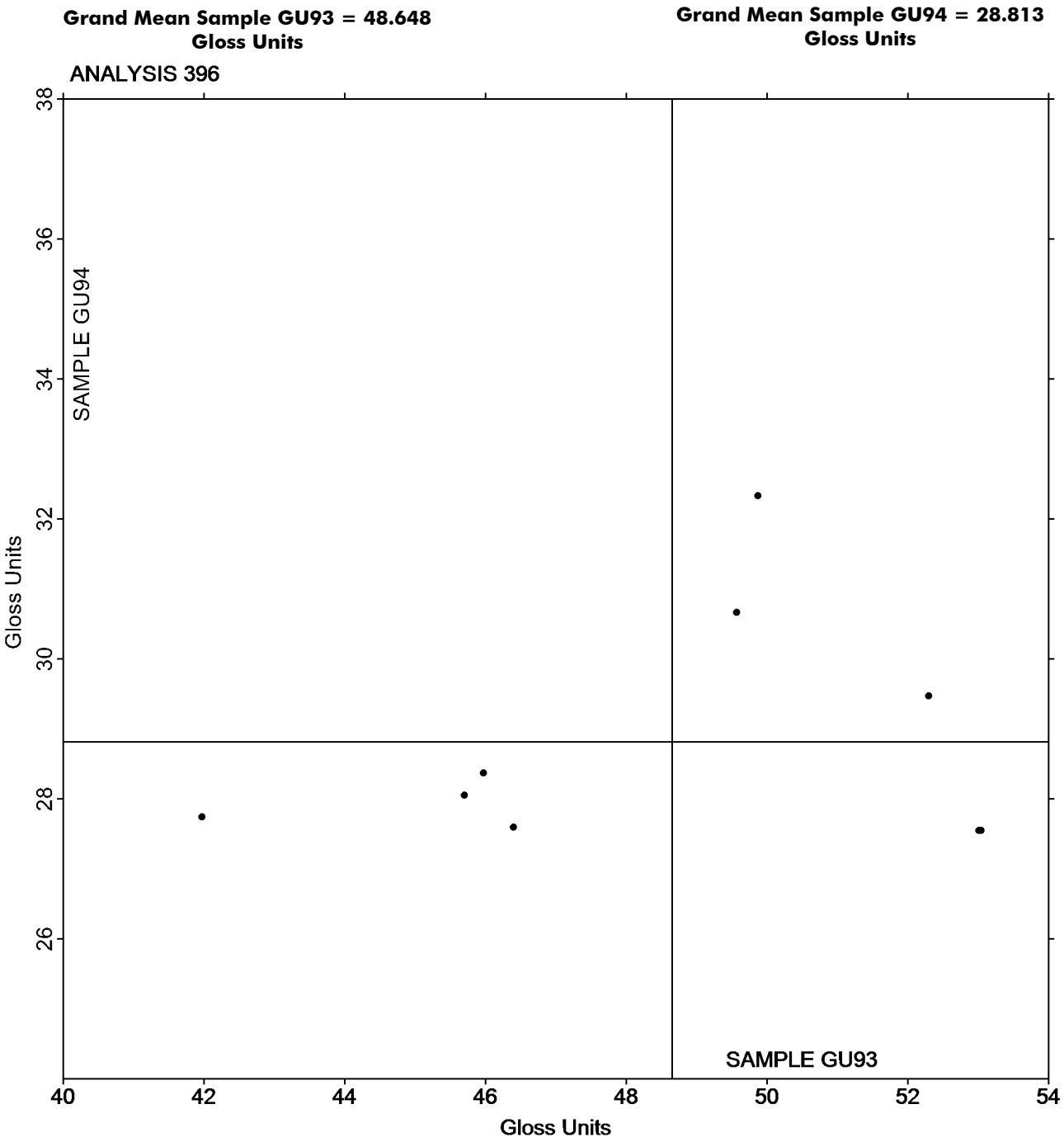
WebCode	Data Flag	Sample GU93 Lab Mean	Sample GU93 Diff from Grand Mean	Sample GU93 CPV	Sample GU94 Lab Mean	Sample GU94 Diff from Grand Mean	Sample GU94 CPV	Instr Code
AL37KR		46.40	-2.25	-0.58	27.59	-1.22	-0.72	GS
DBDHHP		53.01	4.36	1.13	27.55	-1.26	-0.75	TH
HFAWT8		49.57	0.92	0.24	30.66	1.85	1.09	PP
HTW7EC		41.97	-6.68	-1.73	27.74	-1.07	-0.63	GM
R3WJTJ		53.04	4.39	1.14	27.55	-1.26	-0.75	LA
R92MGW		49.87	1.22	0.32	32.33	3.52	2.08	TH
TXYKTE		52.30	3.65	0.94	29.47	0.66	0.39	TH
UXTPMD		45.97	-2.68	-0.69	28.37	-0.44	-0.26	PP
WBU6LE		45.70	-2.95	-0.76	28.05	-0.76	-0.45	WJ

Summary Statistics	Sample GU93	Sample GU94
Grand Means	48.65 Gloss Units	28.81 Gloss Units
Stnd Dev Btwn Labs	3.87 Gloss Units	1.69 Gloss Units

Statistics based on 9 of 9 reporting participants.

Key to Instrument Codes Reported by Participants

GM	BYK-Gardner micro-gloss	GS	BYK-Gardner Glossgard II
LA	L & W Gloss - Autoline 300	PP	Technidyne Profile/Plus
TH	Technidyne T480A	WJ	Zehntner ZLR 1020



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 398

Grammage (Mass per Unit Area)

TAPPI Official Test Method T410

WebCode	Data Flag	Sample GW93 Lab Mean	Sample GW93 Diff from Grand Mean	Sample GW93 CPV	Sample GW94 Lab Mean	Sample GW94 Diff from Grand Mean	Sample GW94 CPV	Instr Code
2A69JP		75.22	-0.17	-0.54	90.54	0.30	0.56	ZZ
2C92F9		75.18	-0.21	-0.66	90.32	0.08	0.15	ZZ
2EZZU8	X	19.77	-55.62	-171.96	23.87	-66.38	-124.34	ZZ
37GB7H		75.57	0.18	0.54	91.42	1.18	2.21	ZZ
6EJCHT	X	50.84	-24.55	-75.91	60.44	-29.80	-55.83	ZZ
7A8NHW		75.08	-0.31	-0.96	90.88	0.64	1.20	ZZ
7QWR4T	X	15.46	-59.94	-185.30	18.22	-72.02	-134.92	ZZ
AVD97T		74.96	-0.44	-1.35	89.72	-0.53	-0.99	ZZ
B2FZRV		75.04	-0.35	-1.08	90.64	0.40	0.75	ZZ
DBDHHP		75.27	-0.12	-0.38	89.79	-0.45	-0.84	ZZ
DGHFRT		75.33	-0.06	-0.20	90.34	0.10	0.18	ZZ
H84T7H		74.88	-0.51	-1.59	89.80	-0.44	-0.83	ZZ
JWY3ZZ		75.56	0.17	0.53	90.45	0.21	0.39	ZZ
LL8PEX		75.91	0.52	1.60	90.57	0.33	0.61	ZZ
N4XFMW		75.66	0.26	0.81	90.44	0.19	0.36	ZZ
NP3YZJ		75.30	-0.09	-0.28	90.40	0.16	0.29	ZZ
R3WJTJ		75.40	0.00	0.01	89.86	-0.38	-0.71	ZZ
R92MGW	X	6.49	-68.90	-213.01	7.72	-82.52	-154.58	ZZ
RQGUUE		75.92	0.53	1.63	90.84	0.60	1.13	ZZ
TRULKA		75.69	0.30	0.92	90.45	0.21	0.39	ZZ
TXYKTE		75.89	0.50	1.54	90.43	0.19	0.36	ZZ
WBU6LE	*	75.69	0.30	0.92	88.76	-1.48	-2.78	ZZ
XGCX9X		75.03	-0.36	-1.13	89.61	-0.63	-1.18	ZZ
Y7TJ6V		75.65	0.26	0.80	89.97	-0.28	-0.52	ZZ
YBMHJQ		74.95	-0.44	-1.37	90.19	-0.05	-0.10	ZZ
YNAMRM		75.55	0.15	0.47	90.07	-0.17	-0.32	ZZ
Z4YCZP		75.32	-0.08	-0.23	90.07	-0.17	-0.32	ZZ

Summary Statistics	Sample GW93	Sample GW94
Grand Means	75.39 g/sq m	90.24 g/sq m
Stnd Dev Btwn Labs	0.32 g/sq m	0.53 g/sq m

Statistics based on 23 of 27 reporting participants.

Comments on Assigned Data Flags for Test #398

7QWR4T (X) - Extreme Data.

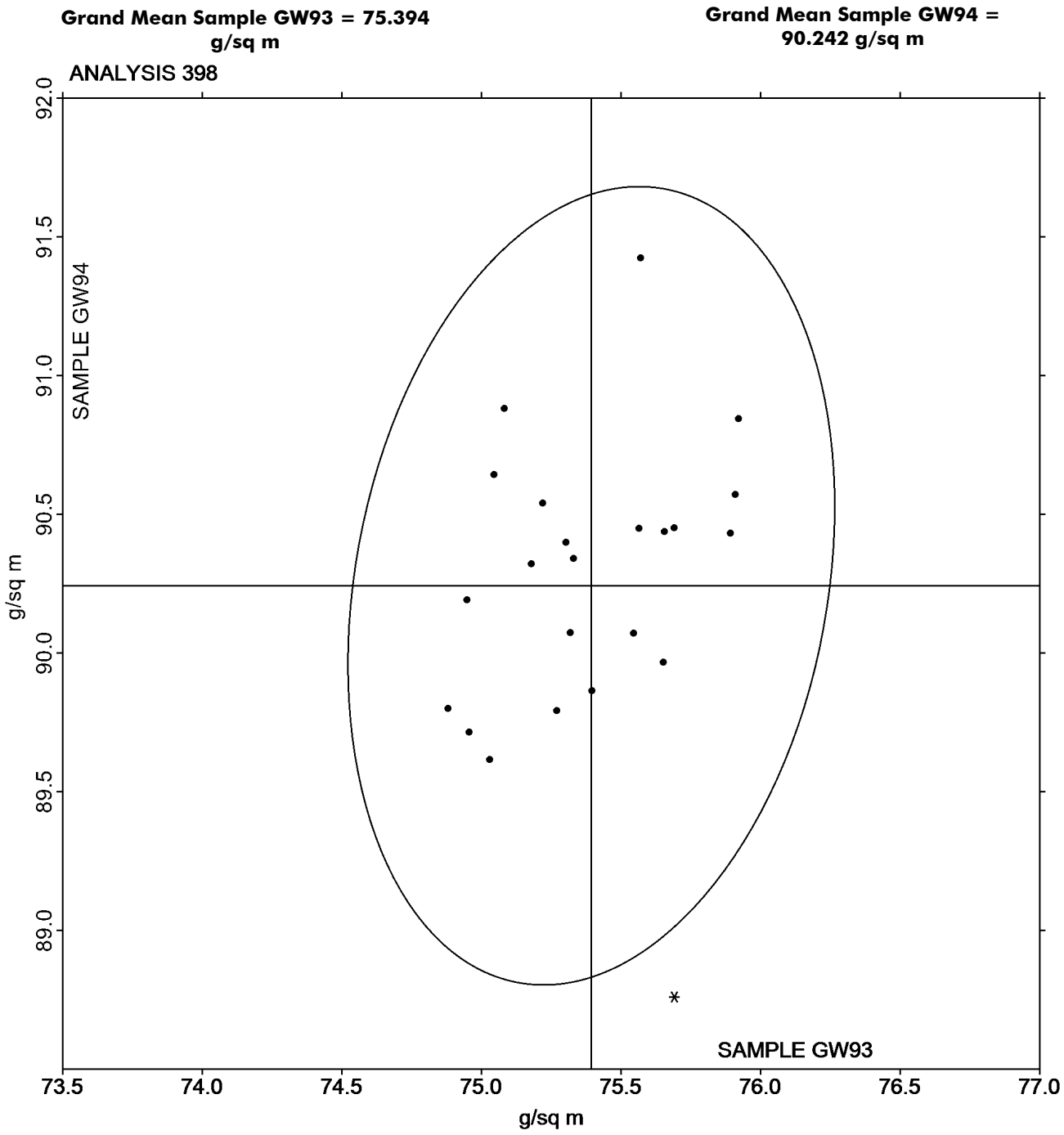
2EZZU8 (X) - Extreme Data.

R92MGW (X) - Extreme Data.

6EJCHT (X) - Extreme Data.

Key to Instrument Codes Reported by Participants

ZZ Instruments No Longer Tracked



Paper & Paperboard Interlaboratory Testing Program

Analysis 399
Sizing Test (Hercules Type)
TAPPI Official Test Method T530

WebCode	Data Flag	Sample GX93 Lab Mean	Sample GX93 Diff from Grand Mean	Sample GX93 CPV	Sample GX94 Lab Mean	Sample GX94 Diff from Grand Mean	Sample GX94 CPV	Instr Code
22NUGJ		7.370	-0.167	-0.09	6.660	-0.213	-0.12	HE
2EZZU8		7.300	-0.237	-0.13	7.300	0.427	0.25	HE
2ZGAV6		7.720	0.183	0.10	6.010	-0.863	-0.50	XX
2ZU7XN	*	11.200	3.663	2.00	7.510	0.637	0.37	HE
6EJCHT		8.880	1.343	0.73	8.870	1.997	1.15	XX
76DPAT		5.260	-2.277	-1.24	5.250	-1.623	-0.93	HE
7824X4		8.860	1.323	0.72	7.840	0.967	0.56	HE
86RE9Y		7.680	0.143	0.08	7.710	0.837	0.48	HE
9G2BNM		8.090	0.553	0.30	7.260	0.387	0.22	HE
AJZ7MG		3.670	-3.867	-2.11	3.890	-2.983	-1.72	XX
BHMY2Y		7.320	-0.217	-0.12	5.920	-0.953	-0.55	HE
CCEVQQ		7.740	0.203	0.11	7.910	1.037	0.60	HE
CCGKUN		7.860	0.323	0.18	6.960	0.087	0.05	HE
EF3EKK		6.250	-1.287	-0.70	6.430	-0.443	-0.26	HE
GGBAZA		6.880	-0.657	-0.36	5.600	-1.273	-0.73	HE
H84T7H		7.000	-0.537	-0.29	7.200	0.327	0.19	HE
HTW7EC		6.810	-0.727	-0.40	6.260	-0.613	-0.35	HE
JRJRPH		8.180	0.643	0.35	8.920	2.047	1.18	HE
JX98DP		7.850	0.313	0.17	5.080	-1.793	-1.03	HE
NN9BHN		10.770	3.233	1.77	10.260	3.387	1.95	HE
PU4UU4		7.610	0.073	0.04	7.690	0.817	0.47	HE
PXR9JD		6.400	-1.137	-0.62	6.000	-0.873	-0.50	HE
Q96N6D		8.500	0.963	0.53	7.390	0.517	0.30	HE
TL644D	*	12.490	4.953	2.71	11.890	5.017	2.89	HE
ULWLGY		6.600	-0.937	-0.51	6.800	-0.073	-0.04	HE
UXTPMD		7.430	-0.107	-0.06	6.580	-0.293	-0.17	HE
UY72N4		5.760	-1.777	-0.97	5.700	-1.173	-0.68	HE
VGNH9C		4.220	-3.317	-1.81	3.920	-2.953	-1.70	HE
XHP8L6		6.870	-0.667	-0.36	4.510	-2.363	-1.36	HE

Summary Statistics	Sample GX93	Sample GX94
Grand Means	7.54 Seconds	6.87 Seconds
Stnd Dev Btwn Labs	1.83 Seconds	1.74 Seconds

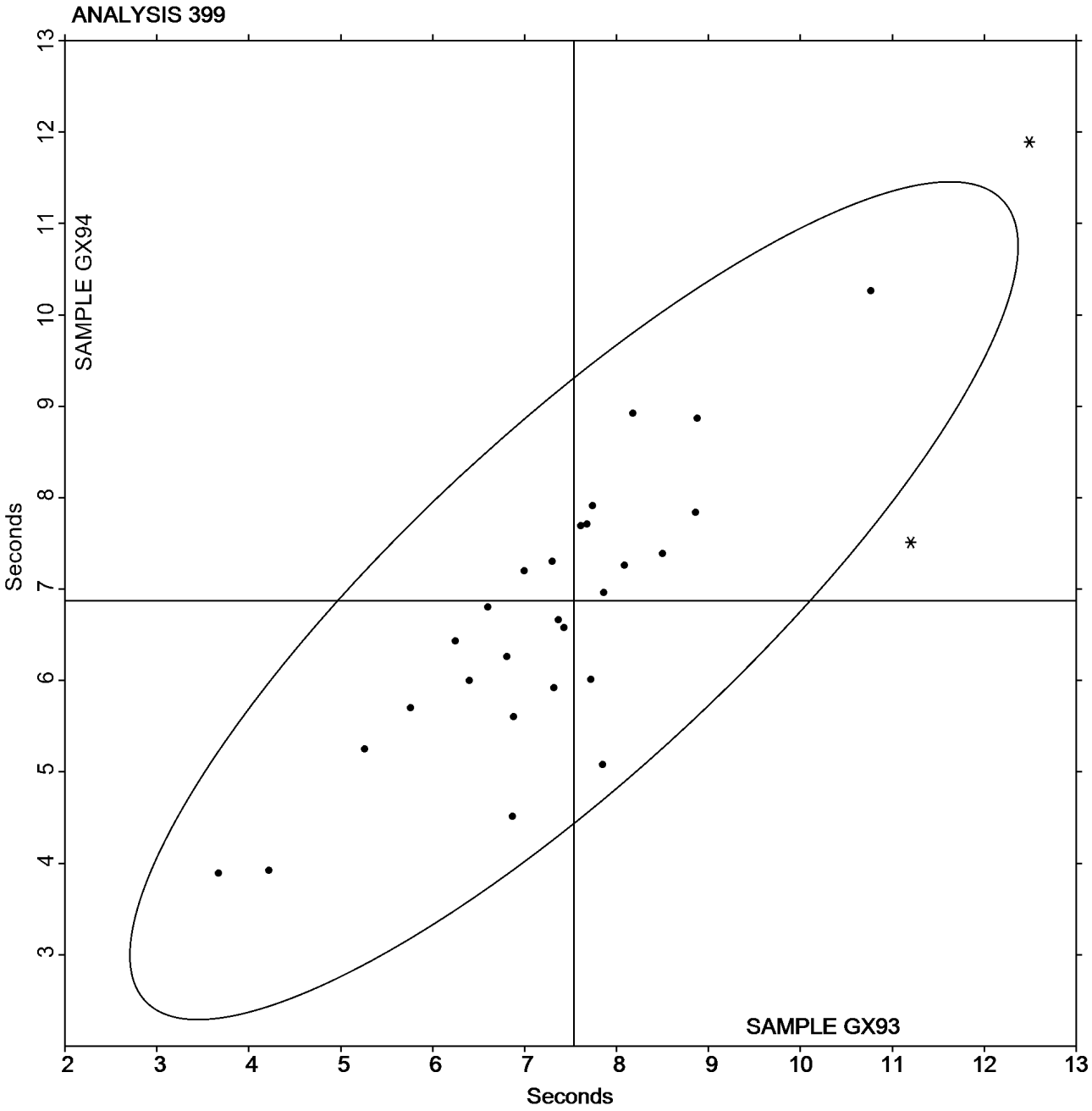
Statistics based on 29 of 29 reporting participants.

Key to Instrument Codes Reported by Participants

HE	Hercules Sizing Tester	XX	Instrument make/model not specified by lab

Grand Mean Sample GX93 = 7.5369 Seconds

Grand Mean Sample GX94 = 6.8731 Seconds



-End of Report-