Collaborative Testing Services, Inc.

Paper & Paperboard Testing Program

Summary Report #3002 G - June 2019

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364	Coefficient of Static Friction - Horizontal Plane Method - Printing Papers
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384	Opacity (89% Reflectance Backing) - Fine Papers
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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 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

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
3U789A		GA67	94.22	-0.87	4.01	-0.51	0.00	0.01	0.51	LA
		GA68	93.71	-0.87	4.02					
6C46PV		GA67	93.61	-0.53	3.85	-0.14	0.07	-0.07	0.18	TS
		GA68	93.46	-0.46	3.78					
7PZXDA		GA67	94.14	-0.82	3.85	-0.44	0.02	0.04	0.45	TC
		GA68	93.70	-0.79	3.89					
ARCQWE		GA67	94.20	-0.84	3.85	-0.49	0.01	0.04	0.49	XX
		GA68	93.71	-0.83	3.89					
BDV9MB		GA67	93.33	-0.22	3.68	-0.39	0.06	0.03	0.40	TS
		GA68	92.94	-0.16	3.71					
DMA6G8		GA67	93.09	-0.16	3.54	-0.19	0.11	-0.09	0.24	TS
		GA68	92.90	-0.05	3.46					
EFMLQC	X	GA67	92.88	-0.14	3.46	-0.17	0.24	-0.27	0.40	TS
		GA68	92.71	0.10	3.19					
EKK6UW		GA67	93.37	-0.01	3.42	-0.38	0.04	0.04	0.38	TS
		GA68	92.99	0.03	3.46					
G2EK8R		GA67	95.55	-0.81	3.34	-0.47	0.04	-0.04	0.48	XS
		GA68	95.08	-0.77	3.30					
HGQHPX		GA67	95.41	-0.85	3.96	-0.39	0.00	-0.04	0.39	LS
		GA68	95.02	-0.84	3.92					
HMVAZG		GA67	94.82	-0.76	4.09	-0.44	0.01	-0.01	0.44	HE
		GA68	94.39	-0.75	4.08					
PLXDAY		GA67	95.56	-0.79	3.79	-0.52	0.15	0.21	0.58	EH
		GA68	95.04	-0.63	4.00					
QEBNPP		GA67	95.48	-0.57	3.96	-0.31	-0.07	0.03	0.32	ND
		GA68	95.17	-0.65	4.00					
RMKP8V		GA67	92.70	-0.78	3.18	0.14	-0.02	0.47	0.49	VM
		GA68	92.84	-0.81	3.65					
VA8BVM		GA67	92.00	-0.78	3.87	0.00	0.01	0.02	0.03 X	TC
		GA68	92.00	-0.77	3.90					
VLZUBE		GA67	92.44	0.04	2.74	-0.02	0.06	0.38	0.39	TS
		GA68	92.42	0.10	3.12					

Paper & Paperboard Interlaboratory Testing Program

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
VP3NC4		GA67	94.93	-0.77	3.80	-0.43	0.02	-0.03	0.43	HE
		GA68	94.50	-0.76	3.77					
XXK7KT		GA67	93.13	-0.45	3.78	-0.44	0.02	-0.07	0.45	TS
		GA68	92.69	-0.43	3.71					

Summary Statistics

Grand Means							
GA67	93.938	-0.586	3.676	-0.319	0.031	0.055	0.389
GA68	93.627	-0.555	3.713				
Stnd Dev Btwn Labs							
GA67	1.152	0.312	0.341	0.201	0.052	0.156	0.136
GA68	1.020	0.333	0.294				

Statistics based on 17 of 18 reporting participants

Comments on Assigned Data Flags for Test #350

EFMLQC (X) - High "a" values for GA68. Inconsistent within replicate readings of "a" for sample GA67. High delta "a" value.

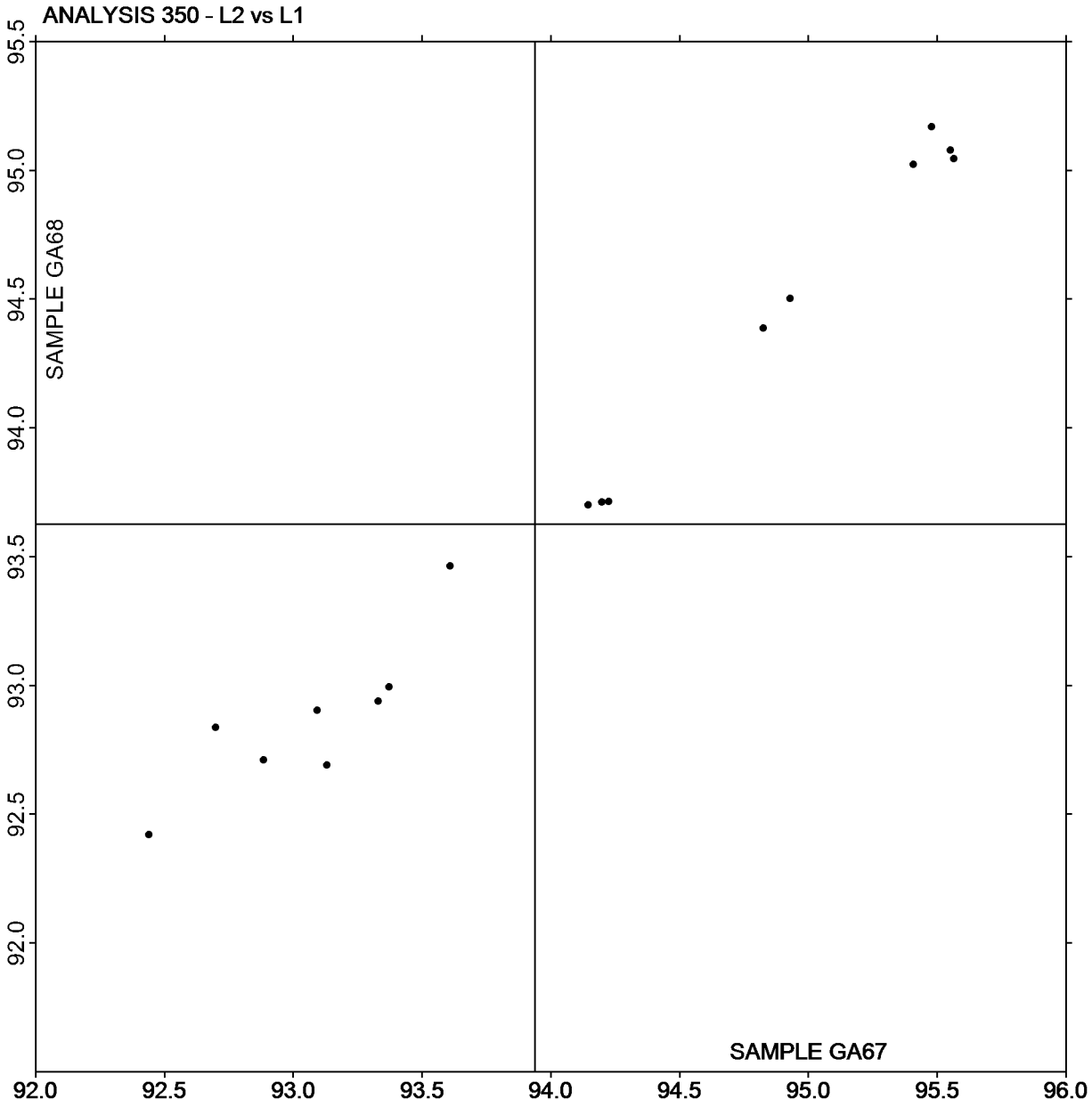
Analysis Notes:

EFMLQC - 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

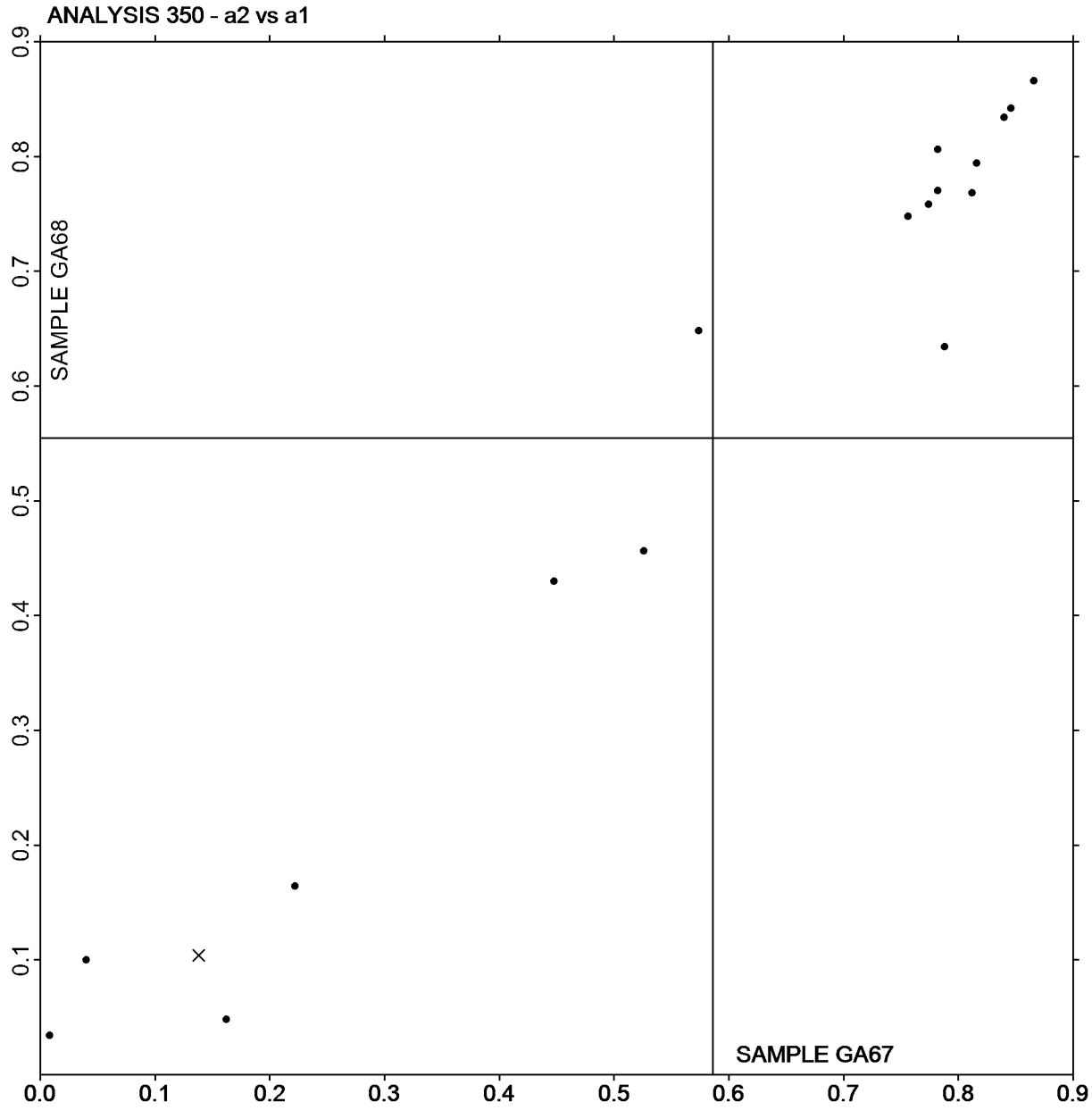
EH	Datacolor Elrepho SF450	HE	Hunter LabScan
LA	L & W Elrepho AL300	LS	L & W Elrepho SE 070
ND	Minolta CM-2500d Spectrophotometer	TC	Technidyne Color Touch Series
TS	Technidyne Brightimeter Micro S-5	VM	Valmet PaperLab (was Kajaani/Robotest)
XS	X-Rite 938 Spectrodensitometer	XX	Instrument make/model not specified by lab

Plot of L values GA68 v L values GA67



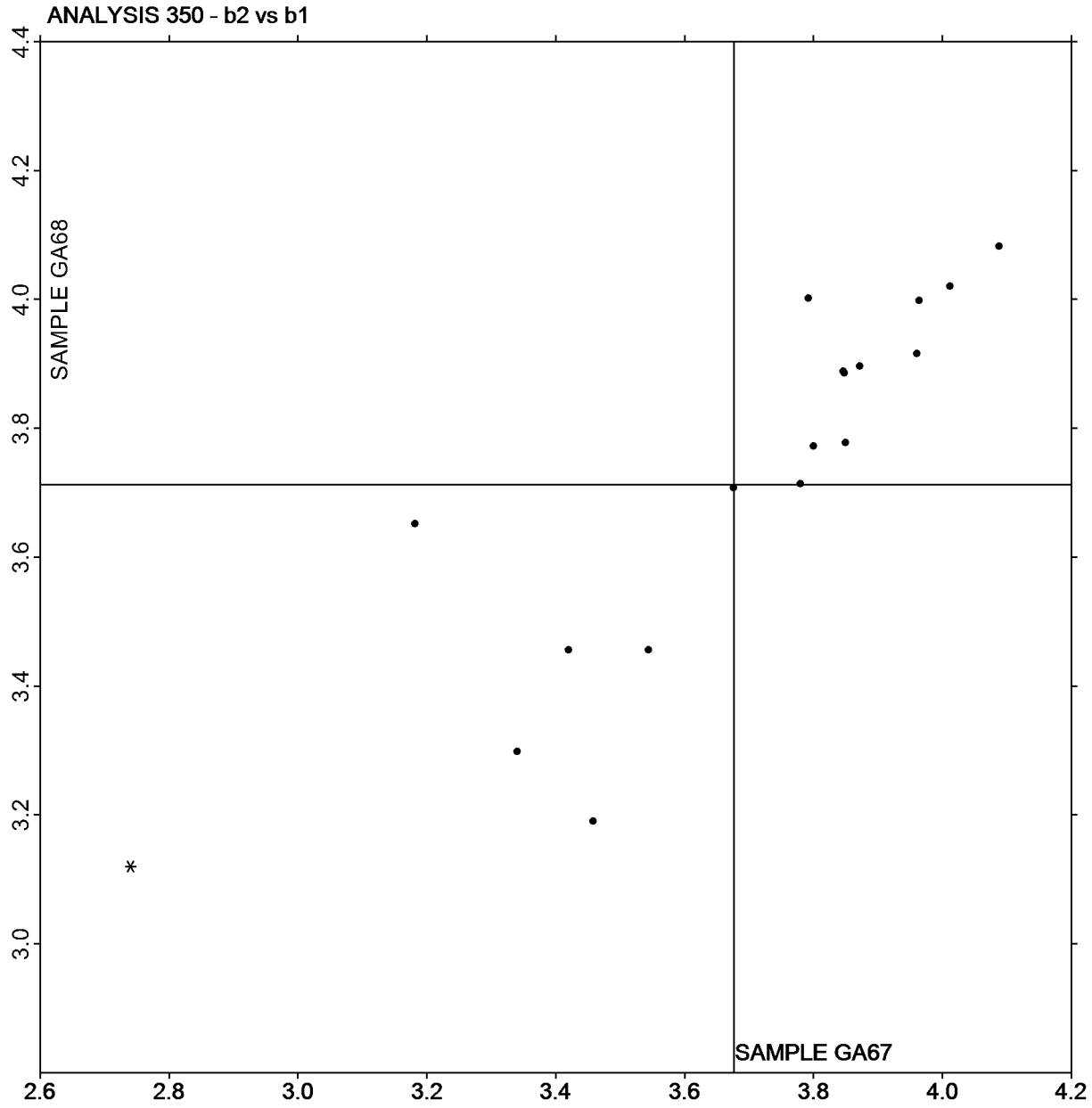
If fewer than 20 laboratories are included in an analysis, a control ellipse will not be drawn on the two-sample plot.

Plot of a values GA68 v a values GA67



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 GA68 v b values GA67



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
24H2RH		**GA67**	94.22	-0.44	3.48	-0.49	-0.07	0.06	0.50	XA
		GA68	93.73	-0.51	3.54					
BDTJJD		**GA67**	95.48	-0.60	3.98	-0.38	-0.10	0.06	0.40	EF
		GA68	95.10	-0.70	4.04					
EVH2XJ		**GA67**	94.76	-0.59	3.82	-0.76	-0.06	-0.11	0.77 X	HE
		GA68	94.00	-0.65	3.72					
HFG928		**GA67**	95.64	-0.60	4.22	-0.43	-0.05	0.02	0.44	NG
		GA68	95.21	-0.65	4.24					
JFBH79		**GA67**	95.40	-0.60	4.04	-0.40	-0.05	0.15	0.43	HT
		GA68	95.00	-0.65	4.19					
LDVVKY		**GA67**	95.36	-0.58	4.00	-0.43	-0.05	0.02	0.44	LS
		GA68	94.93	-0.63	4.02					
M3VH97		**GA67**	95.29	-0.54	4.20	-0.41	0.00	-0.09	0.42	LM
		GA68	94.88	-0.54	4.11					
NAQYX3		**GA67**	95.57	-0.78	3.70	-0.45	-0.02	0.06	0.45	XC
		GA68	95.13	-0.80	3.76					
QZXFNL		**GA67**	95.61	-0.57	4.04	-0.42	-0.06	-0.06	0.43	HT
		GA68	95.19	-0.63	3.98					
RWQGQX		**GA67**	94.82	-0.53	3.58	-0.37	-0.03	0.02	0.37	HE
		GA68	94.45	-0.56	3.60					
U38PCZ		**GA67**	94.60	-0.74	3.19	-0.02	-0.05	0.43	0.43	EH
		GA68	94.59	-0.78	3.61					
VCNVG3		**GA67**	95.33	-0.60	3.90	-0.37	-0.04	0.05	0.37	TC
		GA68	94.96	-0.64	3.95					
ZRQX4R		**GA67**	94.77	-0.64	4.00	-0.43	0.02	-0.01	0.43	HE
		GA68	94.34	-0.62	3.98					
ZVQ4PP		**GA67**	96.49	-0.33	3.38	-0.29	-0.04	0.08	0.30	XP
		GA68	96.20	-0.37	3.46					

Summary Statistics

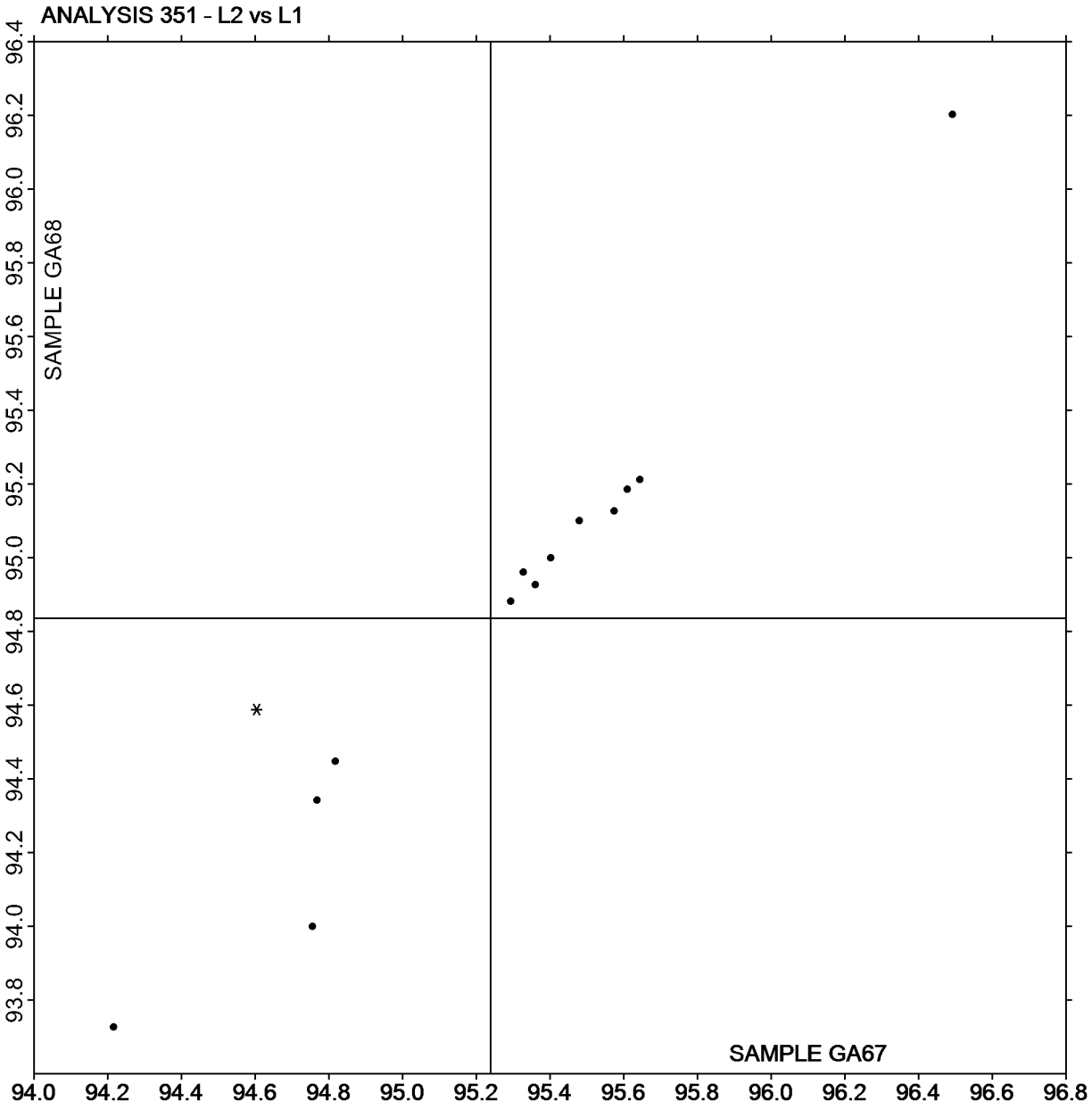
Grand Means							
GA67	95.239	-0.581	3.824	-0.403	-0.042	0.048	0.441
GA68	94.836	-0.623	3.872				
Stnd Dev Btwn Labs							
GA67	0.567	0.108	0.313	0.153	0.029	0.129	0.104
GA68	0.603	0.109	0.252				

Statistics based on 14 of 14 reporting participants

Key to Instrument Codes Reported by Participants

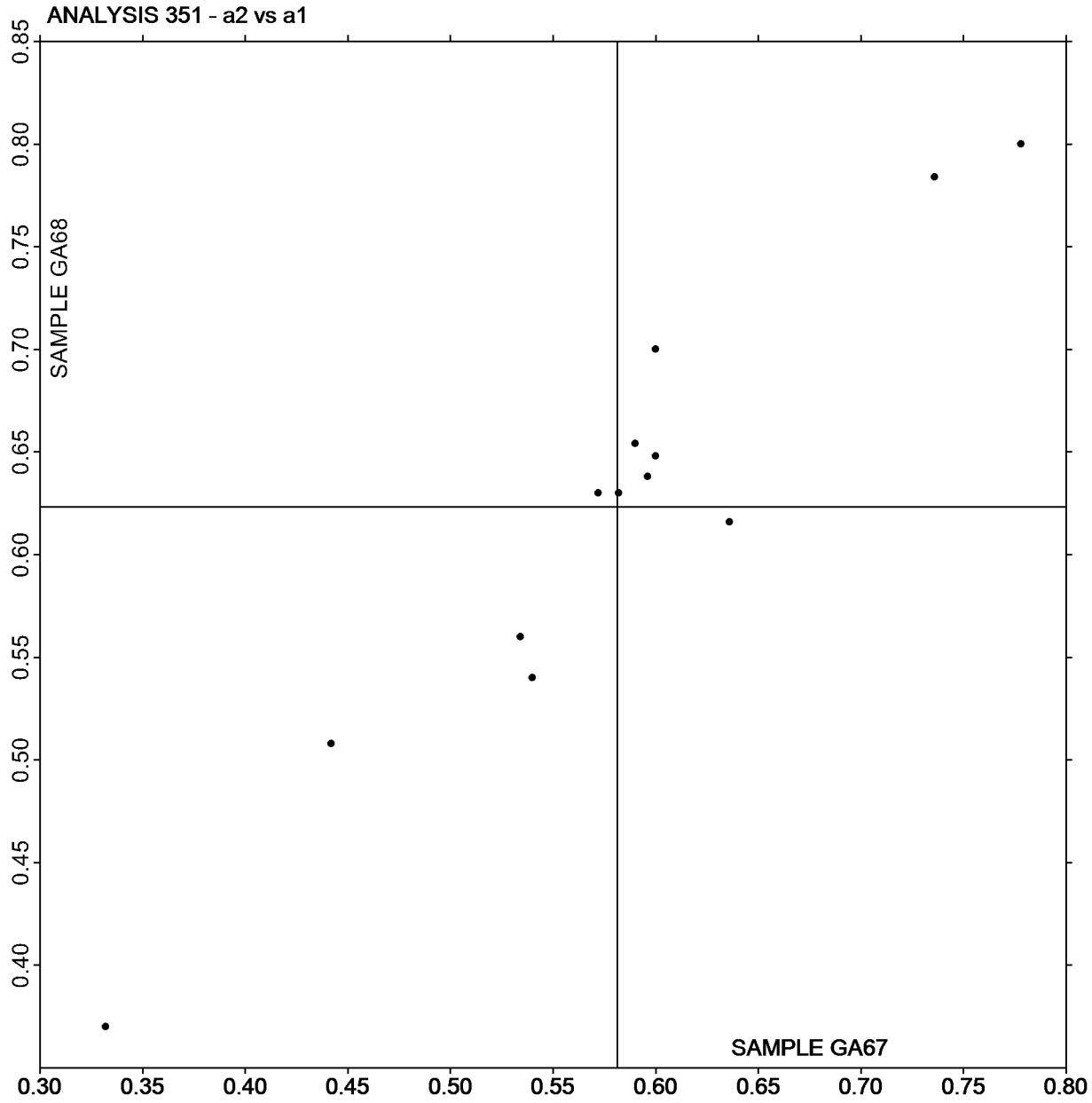
EF	Datacolor Elrepho 3000	EH	Datacolor Elrepho SF450
HE	Hunter LabScan	HT	Hunter UltraScan Vis
LM	Lambda 950 Spectrophotometer	LS	L & W Elrepho SE 070
NG	Minolta CM-3700d Spectrophotometer	TC	Technidyne Color Touch Series
XA	X-Rite (model not specified)	XC	X-Rite eXact Series
XP	X-Rite Spectrophotometer DTP		

Plot of L values GA68 v L values GA67



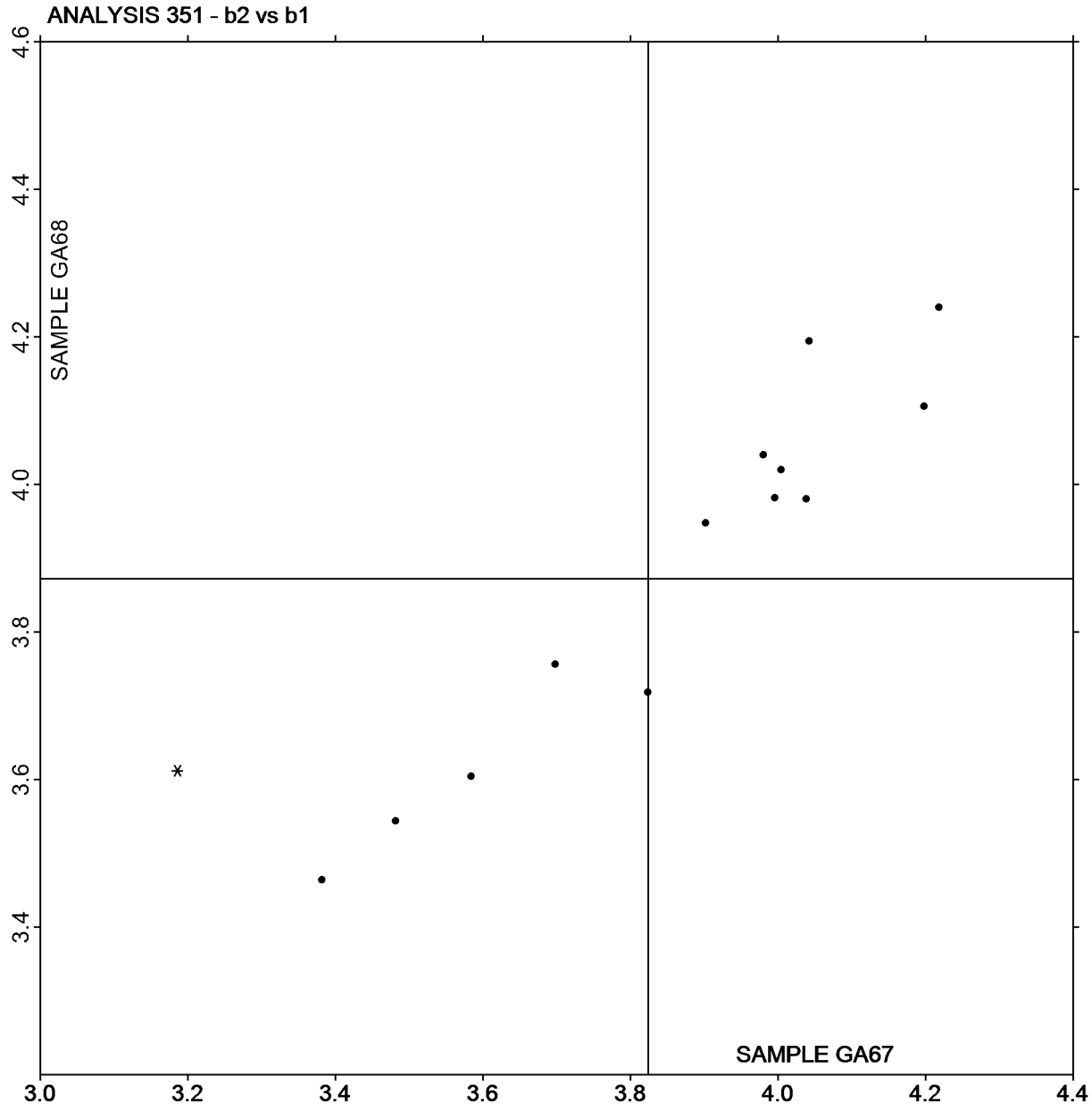
If fewer than 20 laboratories are included in an analysis, a control ellipse will not be drawn on the two-sample plot.

Plot of a values GA68 v a values GA67



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 GA68 v b values GA67



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 GV67 Lab Mean	Sample GV67 Diff from Grand Mean	Sample GV67 CPV	Sample GV68 Lab Mean	Sample GV68 Diff from Grand Mean	Sample GV68 CPV	Instr Code
24H2RH		4.936	-0.036	-0.64	4.941	-0.021	-0.34	LW
2A4RFY		5.074	0.102	1.80	5.054	0.092	1.49	LW
3U789A		4.993	0.020	0.35	5.016	0.054	0.87	EM
3VG6LQ		4.937	-0.035	-0.62	5.001	0.039	0.63	LA
6C46PV		4.965	-0.007	-0.13	4.943	-0.019	-0.31	LA
739LNR		5.045	0.073	1.28	4.994	0.032	0.52	LW
76VXPJ		5.043	0.071	1.24	5.030	0.068	1.10	TA
7JHCNC		5.055	0.083	1.46	5.042	0.080	1.29	EM
7MUDNN		4.987	0.015	0.26	4.982	0.020	0.32	TM
98VAYF		4.960	-0.012	-0.22	4.990	0.028	0.45	LW
99M98M		5.019	0.047	0.82	5.005	0.043	0.70	XX
9F7CKG		4.959	-0.013	-0.24	4.941	-0.021	-0.34	TM
9VZ4X6		5.099	0.126	2.23	5.047	0.085	1.38	LW
A8TMCB		4.906	-0.066	-1.17	4.830	-0.132	-2.14	LW
AGWWKL		4.992	0.020	0.35	5.039	0.077	1.25	LA
ARCQWE		4.940	-0.032	-0.57	4.960	-0.002	-0.03	XX
BDV9MB		5.006	0.034	0.59	4.899	-0.063	-1.02	EM
BP8FJB		4.907	-0.065	-1.15	4.901	-0.061	-0.99	PP
CJDYMB		4.871	-0.101	-1.79	4.884	-0.078	-1.27	PP
DEDETB		4.910	-0.062	-1.10	4.923	-0.039	-0.63	TA
DG3JN4		4.946	-0.026	-0.46	4.958	-0.004	-0.07	PP
DXUGRK		4.945	-0.028	-0.49	4.954	-0.008	-0.13	TM
E4AGJG	*	5.004	0.032	0.56	4.874	-0.088	-1.43	EM
EKK6UW		4.911	-0.061	-1.08	4.924	-0.038	-0.61	TM
EVH2XJ		5.043	0.071	1.24	5.066	0.104	1.69	TM
G2EK8R		4.990	0.018	0.31	4.940	-0.022	-0.36	TM
GA9PZT		4.957	-0.016	-0.28	4.921	-0.041	-0.66	XX
HFG928		4.899	-0.073	-1.29	4.912	-0.050	-0.81	PP
HGMVA6		4.861	-0.111	-1.96	4.821	-0.141	-2.29	TA
HGQHPX		5.012	0.040	0.70	4.975	0.013	0.21	LW
HKQJX8		5.031	0.059	1.03	4.976	0.014	0.23	LW
HMXY8Y		5.012	0.040	0.70	5.016	0.054	0.88	LW
HTJYEY		4.959	-0.013	-0.24	5.034	0.072	1.17	PP
J76QM7		4.993	0.020	0.35	4.979	0.017	0.28	LW
JFBH79		4.942	-0.030	-0.54	4.928	-0.034	-0.55	EM
JV3BW2	*	5.081	0.109	1.91	4.949	-0.013	-0.21	EM
K4DR98		5.011	0.039	0.68	4.977	0.015	0.24	PP
L22GMN		4.976	0.003	0.06	4.915	-0.047	-0.77	TM
L9LH32		4.976	0.004	0.07	5.039	0.077	1.25	MS
M3VH97		5.046	0.074	1.31	5.085	0.123	1.99	TM
NAQYX3		4.961	-0.012	-0.21	4.906	-0.057	-0.92	LW

Paper & Paperboard Interlaboratory Testing Program

Analysis 360

Thickness (Caliper), Printing papers

TAPPI Official Test Method T411

WebCode	Data Flag	Sample GV67 Lab Mean	Sample GV67 Diff from Grand Mean	Sample GV67 CPV	Sample GV68 Lab Mean	Sample GV68 Diff from Grand Mean	Sample GV68 CPV	Instr Code
PLXDAY		5.035	0.063	1.10	5.031	0.069	1.12	EM
PWFV4R		4.913	-0.059	-1.04	5.007	0.045	0.72	LW
QCMCNY		4.909	-0.063	-1.12	4.890	-0.072	-1.17	PP
QZXFNL		4.967	-0.005	-0.10	4.954	-0.008	-0.13	EM
RWQGQX		4.917	-0.055	-0.98	4.897	-0.065	-1.06	TA
T493J3		4.910	-0.062	-1.10	4.900	-0.062	-1.01	TA
TZ77U9		4.895	-0.077	-1.36	4.849	-0.113	-1.83	TA
VA8BVM		4.960	-0.012	-0.22	4.967	0.005	0.08	LA
VCNVG3		5.012	0.039	0.69	5.024	0.062	1.00	PP
XXK7KT		4.893	-0.079	-1.40	4.948	-0.014	-0.23	TM
YL4NJA		4.993	0.021	0.37	4.992	0.030	0.49	LW
ZVQ4PP	X	4,845.000	4,840.028	85,327.91	4,838.000	4,833.038	78,322.08	TM

Summary Statistics	Sample GV67	Sample GV68
Grand Means	4.97 mils	4.96 mils
Stnd Dev Btwn Labs	0.06 mils	0.06 mils

Statistics based on 52 of 53 reporting participants.

Comments on Assigned Data Flags for Test #360

ZVQ4PP (X) - Extreme Data.

Analysis Notes:

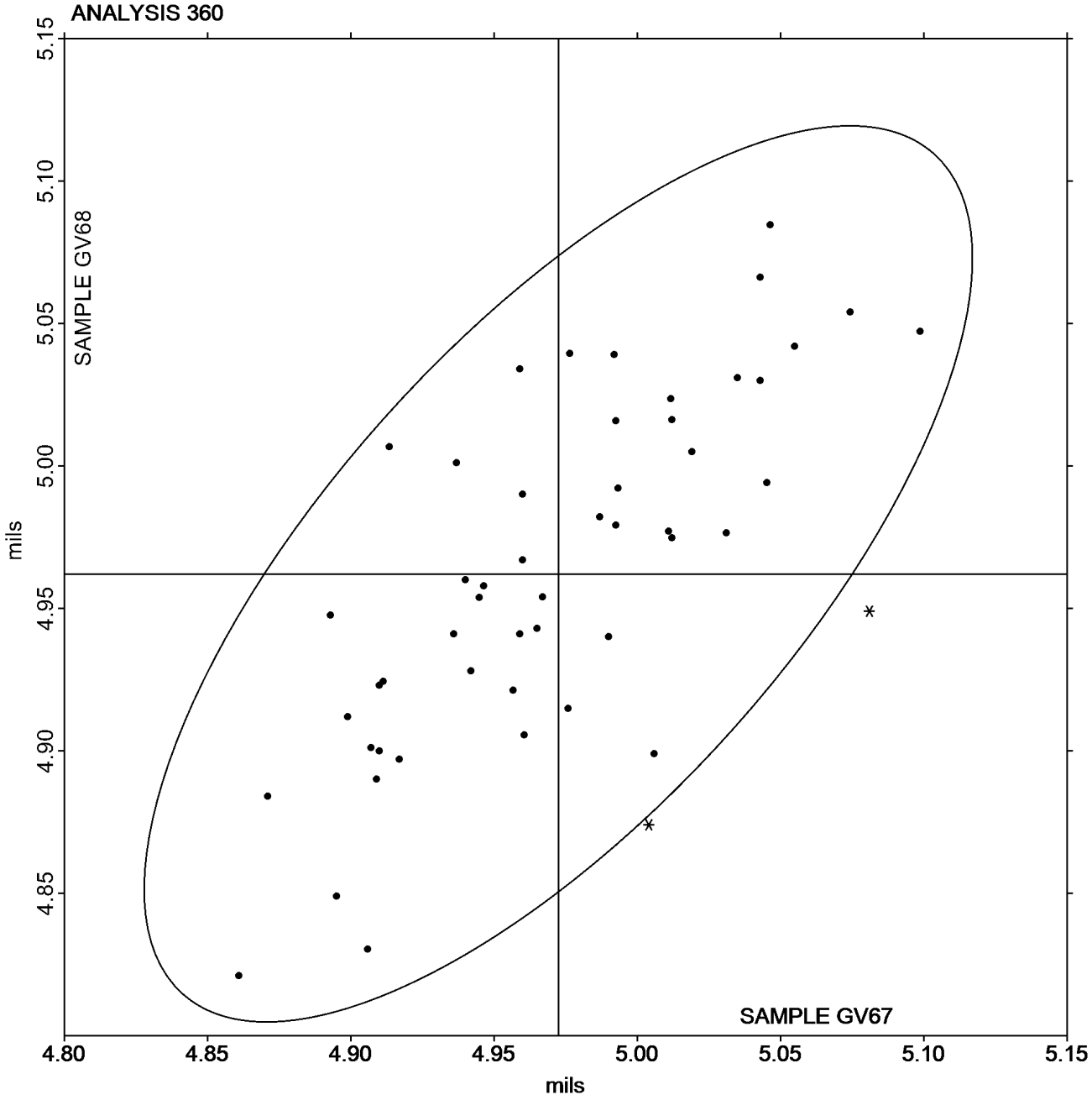
ZVQ4PP - Data appear to be reported as mils, not inches as indicated on datasheet.

Key to Instrument Codes Reported by Participants

EM	Emveco	LA	L & W Autoline
LW	L & W	MS	Messmer
PP	Technidyne Profile/Plus	TA	Thwing-Albert
TM	TMI	XX	Instrument make/model not specified by lab

Grand Mean Sample GV67 = 4.9724 mils

Grand Mean Sample GV68 = 4.9621 mils



Paper & Paperboard Interlaboratory Testing Program

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

WebCode	Data Flag	Sample GY67 Lab Mean	Sample GY67 Diff from Grand Mean	Sample GY67 CPV	Sample GY68 Lab Mean	Sample GY68 Diff from Grand Mean	Sample GY68 CPV	Instr Code
2CT7XG		14.26	0.12	0.74	14.19	0.04	0.26	TM
3U789A		14.18	0.03	0.20	14.22	0.08	0.49	EM
49Z7GN		14.36	0.22	1.32	14.39	0.24	1.57	LA
6VD26L		14.21	0.07	0.42	14.24	0.09	0.61	TM
8T24TF		14.46	0.32	1.97	14.42	0.27	1.76	TM
98RMKM		14.22	0.08	0.48	14.20	0.05	0.32	TA
9G3P7N		14.06	-0.08	-0.50	14.15	0.00	-0.01	TA
9NYUQC		14.02	-0.12	-0.75	14.05	-0.10	-0.62	TA
9QRHDE		13.94	-0.20	-1.24	13.87	-0.28	-1.82	LW
B3TX99		14.16	0.02	0.11	14.21	0.06	0.42	LA
DG3JN4		14.00	-0.14	-0.84	14.00	-0.15	-0.97	LW
HGMVA6		14.13	-0.01	-0.05	14.05	-0.10	-0.65	TA
HMVAZG		14.15	0.01	0.06	14.21	0.07	0.43	EM
J3KL7V		14.09	-0.06	-0.34	14.11	-0.03	-0.21	LW
K8W7C9		13.99	-0.15	-0.93	14.10	-0.05	-0.30	TM
LDVVKY		14.19	0.05	0.29	14.09	-0.06	-0.36	LW
MQ6NXX		14.25	0.11	0.67	14.20	0.06	0.38	XX
NAARTK		14.19	0.04	0.26	14.21	0.07	0.44	TM
PWFV4R		14.22	0.07	0.45	14.18	0.04	0.23	LW
QVEKLU		14.11	-0.03	-0.19	14.06	-0.08	-0.54	TM
RAYA4W		14.16	0.02	0.12	14.23	0.09	0.58	LW
RMKP8V		13.84	-0.30	-1.84	13.83	-0.32	-2.08	EM
T493J3		14.18	0.04	0.23	14.16	0.01	0.09	TA
TZ77U9		14.11	-0.03	-0.18	14.13	-0.01	-0.09	TA
U38PCZ		14.47	0.33	2.01	14.43	0.29	1.87	EM
UV6HQ7		13.78	-0.36	-2.21	13.89	-0.26	-1.66	MM
VLZUBE		13.89	-0.25	-1.51	13.88	-0.26	-1.71	EM
VP3NC4		14.38	0.24	1.47	14.43	0.29	1.85	EM
YCW9D2		13.95	-0.19	-1.16	14.06	-0.08	-0.54	LW
YNQKRZ		14.14	0.00	-0.01	14.11	-0.04	-0.25	TM
ZCUULM		14.38	0.24	1.46	14.33	0.18	1.17	LW
ZRQX4R		14.10	-0.04	-0.26	14.10	-0.05	-0.33	EM
ZYPMMG		14.10	-0.04	-0.25	14.09	-0.05	-0.34	TM

Summary Statistics	Sample GY67	Sample GY68
Grand Means	14.14 mils	14.15 mils
Stnd Dev Btwn Labs	0.16 mils	0.15 mils

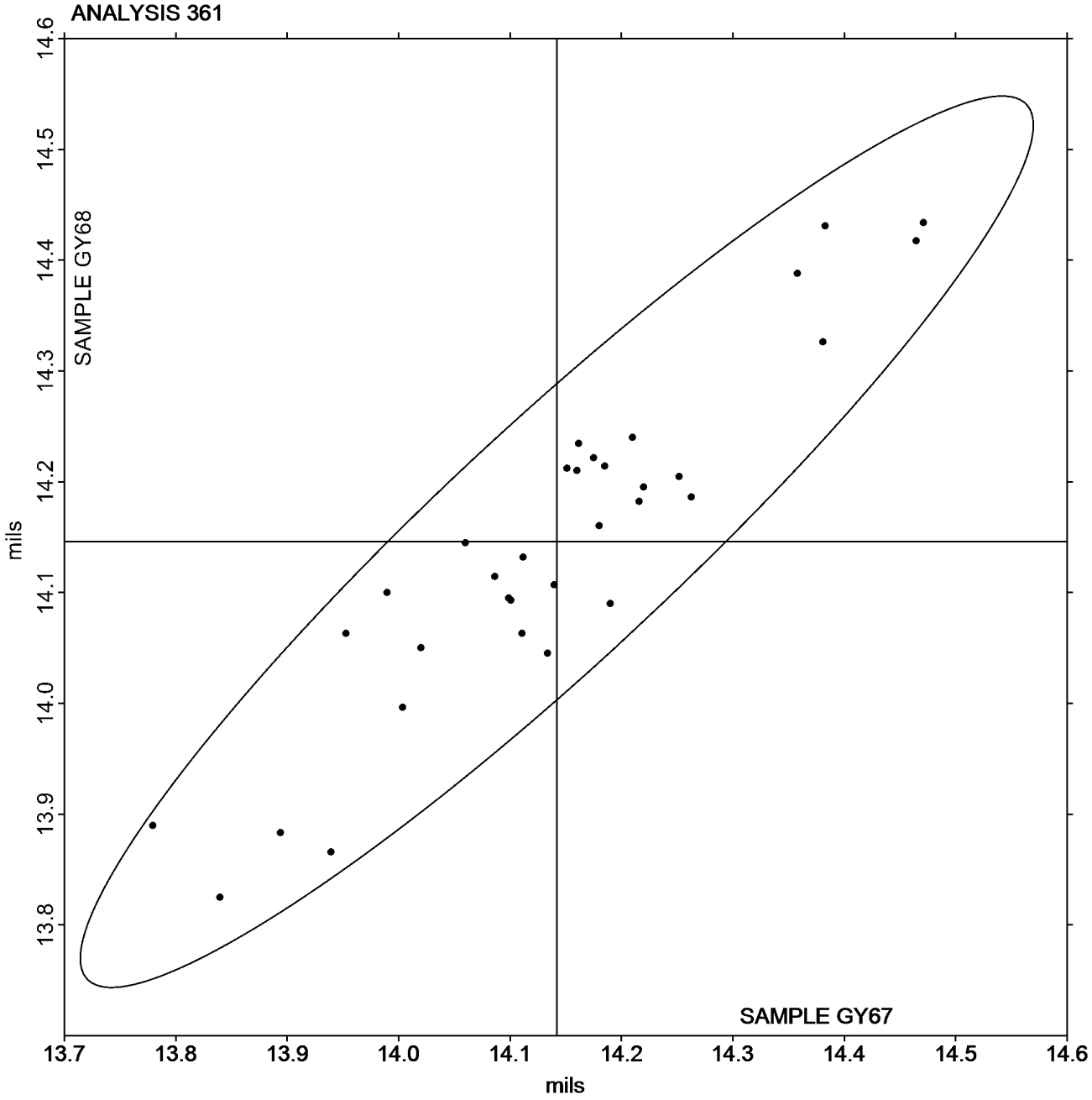
Statistics based on 33 of 33 reporting participants.

Key to Instrument Codes Reported by Participants

EM	Emveco	LA	L & W Autoline
LW	L & W	MM	Mitutoyo Digital Micrometer
TA	Thwing-Albert	TM	TMI
XX	Instrument make/model not specified by lab		

Grand Mean Sample GY67 = 14.142 mils

Grand Mean Sample GY68 = 14.146 mils



Paper & Paperboard Interlaboratory Testing Program

Analysis 364

Coefficient of Static Friction - Horizontal Plane Method - Printing Papers

TAPPI Official Test Method T549

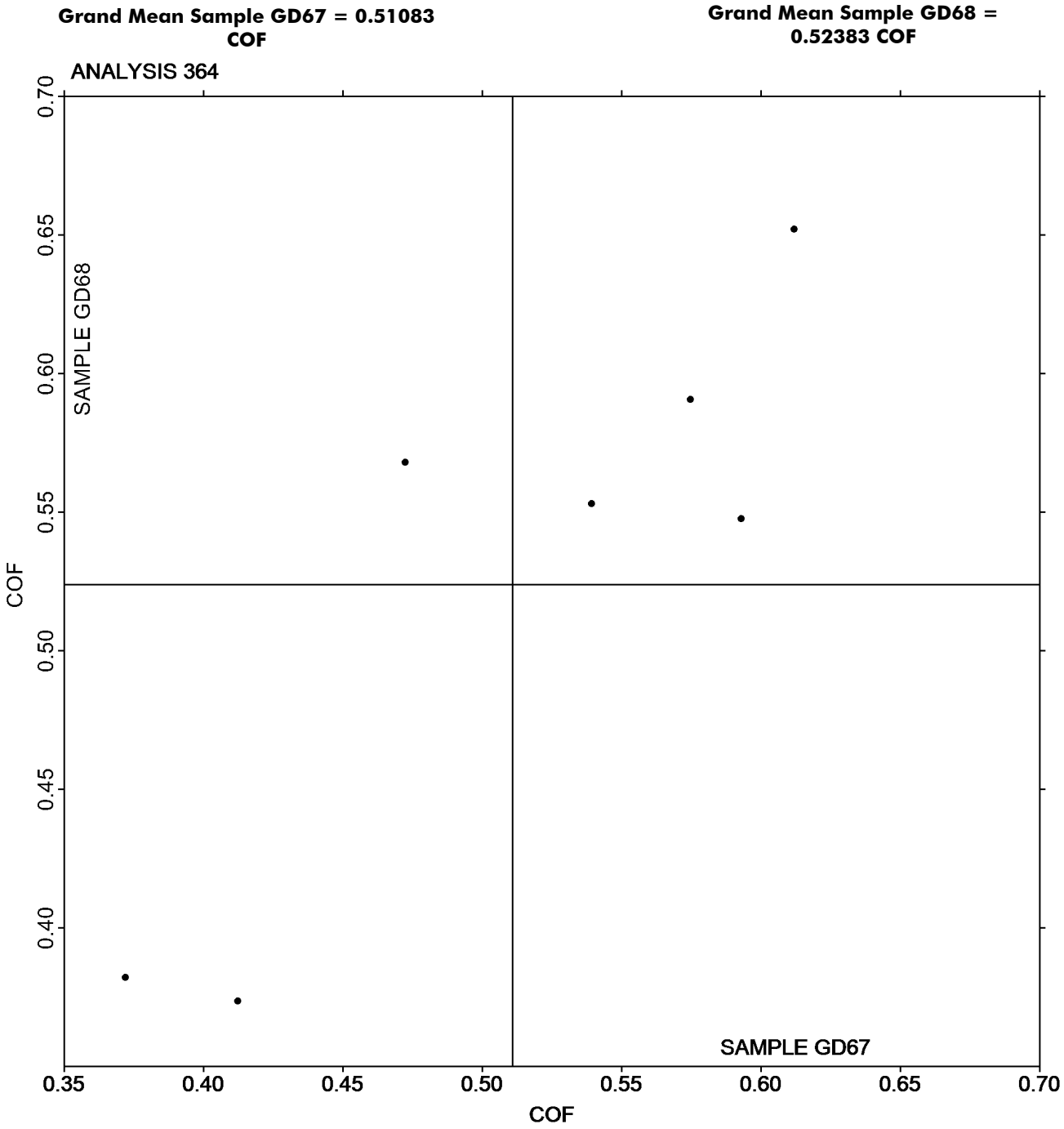
WebCode	Data Flag	Sample GD67 Lab Mean	Sample GD67 Diff from Grand Mean	Sample GD67 CPV	Sample GD68 Lab Mean	Sample GD68 Diff from Grand Mean	Sample GD68 CPV	Instr Code
7JHCNC		0.6120	0.1012	1.08	0.6520	0.1282	1.21	TA
BDV9MB		0.5930	0.0822	0.88	0.5476	0.0238	0.23	TA
G2EK8R		0.4124	-0.0984	-1.05	0.3736	-0.1502	-1.42	XX
JR7MHF		0.5392	0.0284	0.30	0.5530	0.0292	0.28	TA
PN6RXT		0.4724	-0.0384	-0.41	0.5680	0.0442	0.42	IT
RWQGQX		0.3720	-0.1388	-1.49	0.3820	-0.1418	-1.34	TA
ZCUULM		0.5748	0.0640	0.69	0.5906	0.0668	0.63	TL

Summary Statistics	Sample GD67	Sample GD68
Grand Means	0.51 COF	0.52 COF
Stnd Dev Btwn Labs	0.09 COF	0.11 COF

Statistics based on 7 of 7 reporting participants.

Key to Instrument Codes Reported by Participants

IT	IMASS SP-2100	TA	Thwing-Albert Friction Tester
TL	TMI 32-90 Lab Master/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 365

Coefficient of Kinetic Friction - Horizontal Plane Method - Printing Papers

TAPPI Official Test Method T549

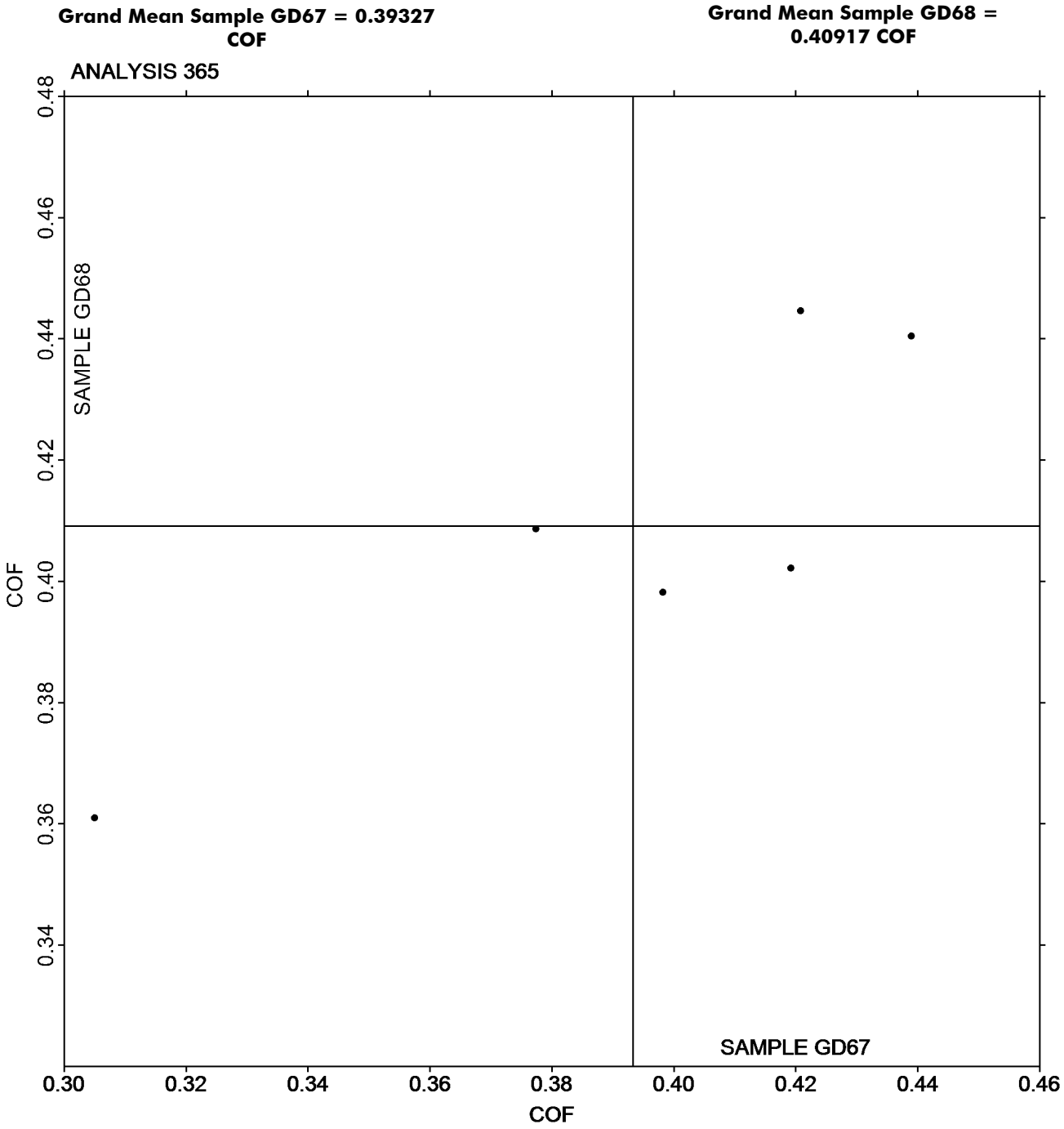
WebCode	Data Flag	Sample GD67 Lab Mean	Sample GD67 Diff from Grand Mean	Sample GD67 CPV	Sample GD68 Lab Mean	Sample GD68 Diff from Grand Mean	Sample GD68 CPV	Instr Code
BP8FJB		0.4192	0.0259	0.54	0.4022	-0.0070	-0.23	TA
DMA6G8		0.4390	0.0457	0.95	0.4404	0.0312	1.02	TA
G2EK8R		0.3982	0.0049	0.10	0.3982	-0.0110	-0.36	XX
JR7MHF		0.3774	-0.0159	-0.33	0.4086	-0.0006	-0.02	TA
JV3BW2		0.4208	0.0275	0.57	0.4446	0.0354	1.15	TA
PN6RXT		0.3050	-0.0883	-1.83	0.3610	-0.0482	-1.57	IR

Summary Statistics	Sample GD67	Sample GD68
Grand Means	0.39 COF	0.41 COF
Stnd Dev Btwn Labs	0.05 COF	0.03 COF

Statistics based on 6 of 6 reporting participants.

Key to Instrument Codes Reported by Participants

IR	IMASS SP-2000	TA	Thwing-Albert Friction 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 370

Air Resistance - Gurley Oil Type

TAPPI Official Test Method T460

WebCode	Data Flag	Sample GE67 Lab Mean	Sample GE67 Diff from Grand Mean	Sample GE67 CPV	Sample GE68 Lab Mean	Sample GE68 Diff from Grand Mean	Sample GE68 CPV	Instr Code
24H2RH		29.06	0.53	0.37	26.84	-2.14	-1.32	PP
2A338V		28.11	-0.43	-0.30	28.08	-0.90	-0.56	TN
3VG6LQ		29.55	1.01	0.70	31.64	2.66	1.64	LA
6C46PV		28.18	-0.35	-0.25	29.14	0.16	0.10	LA
7JHCNC		28.50	-0.03	-0.02	28.96	-0.02	-0.01	PP
9QRHDE		29.06	0.53	0.37	29.09	0.11	0.07	TL
9TXYQC		28.83	0.30	0.21	29.27	0.29	0.18	XX
9VZ4X6		28.18	-0.35	-0.25	28.21	-0.77	-0.48	LP
A92UJA		30.09	1.56	1.08	28.63	-0.35	-0.22	GL
ARCQWE		26.69	-1.84	-1.28	27.40	-1.58	-0.98	XX
BDTJJD		30.62	2.09	1.45	30.42	1.44	0.89	LP
CJDYMB		29.69	1.16	0.81	31.70	2.72	1.68	PP
DG3JN4		26.72	-1.81	-1.26	28.49	-0.49	-0.30	PP
E4AGJG		29.68	1.14	0.79	28.45	-0.54	-0.33	PP
EKK6UW	X	27.52	-1.01	-0.70	20.35	-8.63	-5.33	LW
G2EK8R		30.40	1.87	1.30	28.90	-0.08	-0.05	GS
GJKNU4		30.24	1.71	1.19	32.09	3.11	1.92	XX
HGQHPX		27.33	-1.20	-0.84	28.03	-0.95	-0.59	LP
HTJYEY		28.56	0.03	0.02	29.89	0.91	0.56	PP
JFBH79		29.87	1.34	0.93	29.16	0.18	0.11	HG
JR7MHF		29.11	0.58	0.40	29.91	0.93	0.57	WG
K8W7C9		28.68	0.15	0.10	29.10	0.12	0.07	TL
M3VH97		28.08	-0.45	-0.32	27.70	-1.28	-0.79	PR
MQ6NXX		29.47	0.94	0.65	29.39	0.41	0.25	LA
NAQYX3		27.80	-0.73	-0.51	28.40	-0.58	-0.36	LW
PLXDAY		27.56	-0.97	-0.67	26.82	-2.16	-1.34	PP
QCMCNY		29.34	0.81	0.56	29.53	0.55	0.34	HG
QZXFNL		27.38	-1.16	-0.80	30.08	1.10	0.68	PP
RAYA4W		28.41	-0.12	-0.09	28.99	0.01	0.01	LW
RMKP8V		25.47	-3.06	-2.13	25.25	-3.73	-2.30	VM
RWQGQX		28.33	-0.21	-0.14	28.47	-0.51	-0.32	PP
T493J3		30.21	1.68	1.17	32.11	3.13	1.93	GA
TZ77U9		30.34	1.81	1.26	30.77	1.79	1.10	PP
UN7ZBU		28.19	-0.34	-0.24	30.60	1.62	1.00	XX
V76MYX		26.54	-1.99	-1.39	26.39	-2.59	-1.60	LP
VCNVG3		25.02	-3.52	-2.44	25.38	-3.60	-2.23	PP
XDWPCT		31.13	2.60	1.81	31.04	2.06	1.27	PP
XXK7KT		29.56	1.03	0.71	29.53	0.55	0.34	LP
YCW9D2		27.09	-1.44	-1.00	29.30	0.32	0.20	LP
Z4KAHQ		26.10	-2.43	-1.69	27.88	-1.10	-0.68	PP
ZRQX4R		28.18	-0.35	-0.24	28.24	-0.74	-0.46	PP

Summary Statistics	Sample GE67	Sample GE68
Grand Means	28.53 sec/100 cc	28.98 sec/100 cc
Stnd Dev Btwn Labs	1.44 sec/100 cc	1.62 sec/100 cc

Statistics based on 40 of 41 reporting participants.

Comments on Assigned Data Flags for Test #370

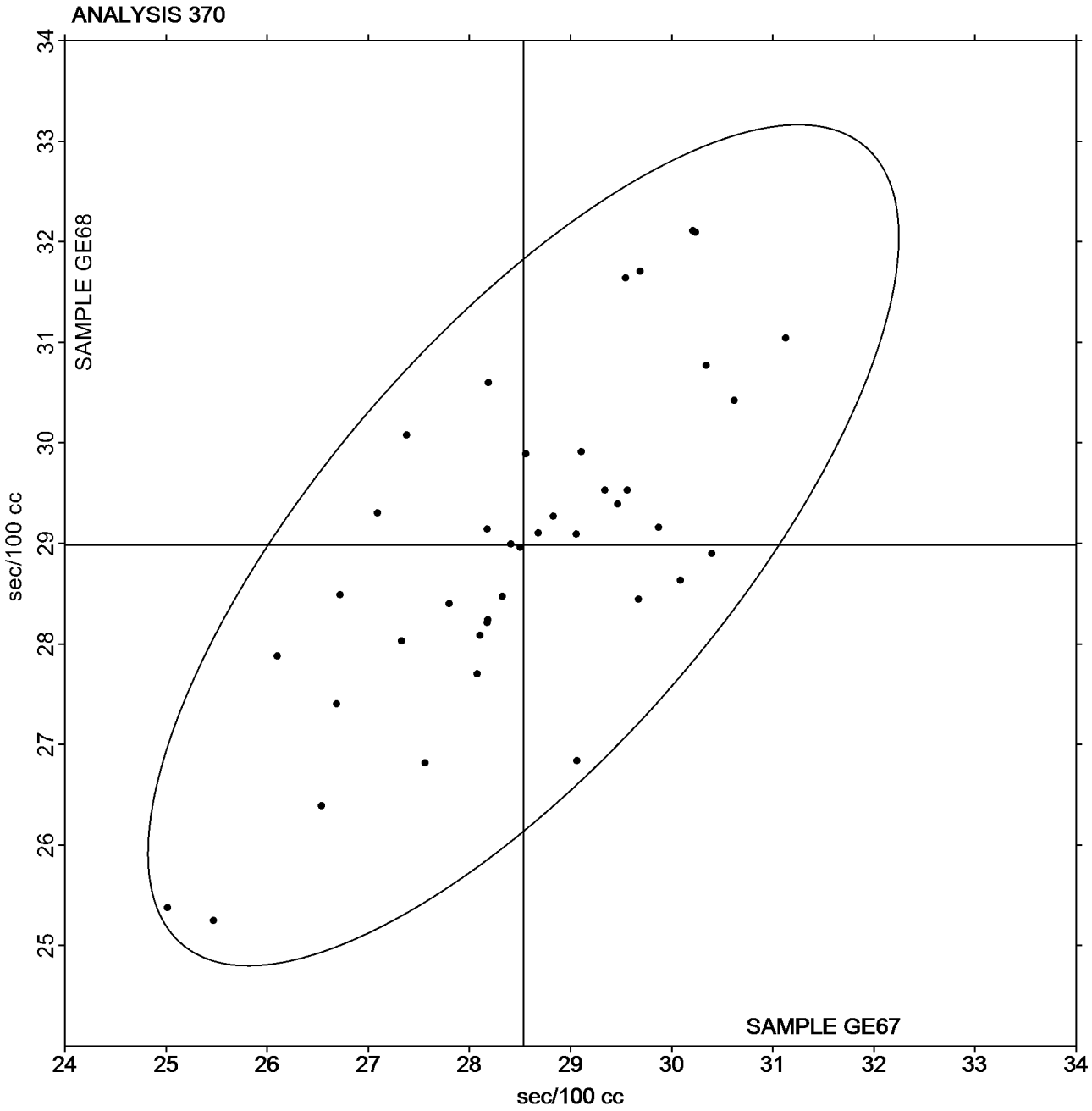
EKK6UW (X) - Data for sample GE68 are low.

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
LA	L & W Autoline	LP	L & W Densometer, Air Permeance
LW	L & W Type Gurley Densometer, Oil Flotation	PP	Technidyne Profile/Plus
PR	Parker Print-Surf (PPS) Model M590	TL	Gurley Densometer #4110, Oil Flotation
TN	Gurley S-P-S Tester #4190	VM	Valmet PaperLab (was Kajaani/Robotest)
WG	W & LE Gurley Tester	XX	Instrument make/model not specified by lab

Grand Mean Sample GE67 = 28.534 sec/100 cc

Grand Mean Sample GE68 = 28.981 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

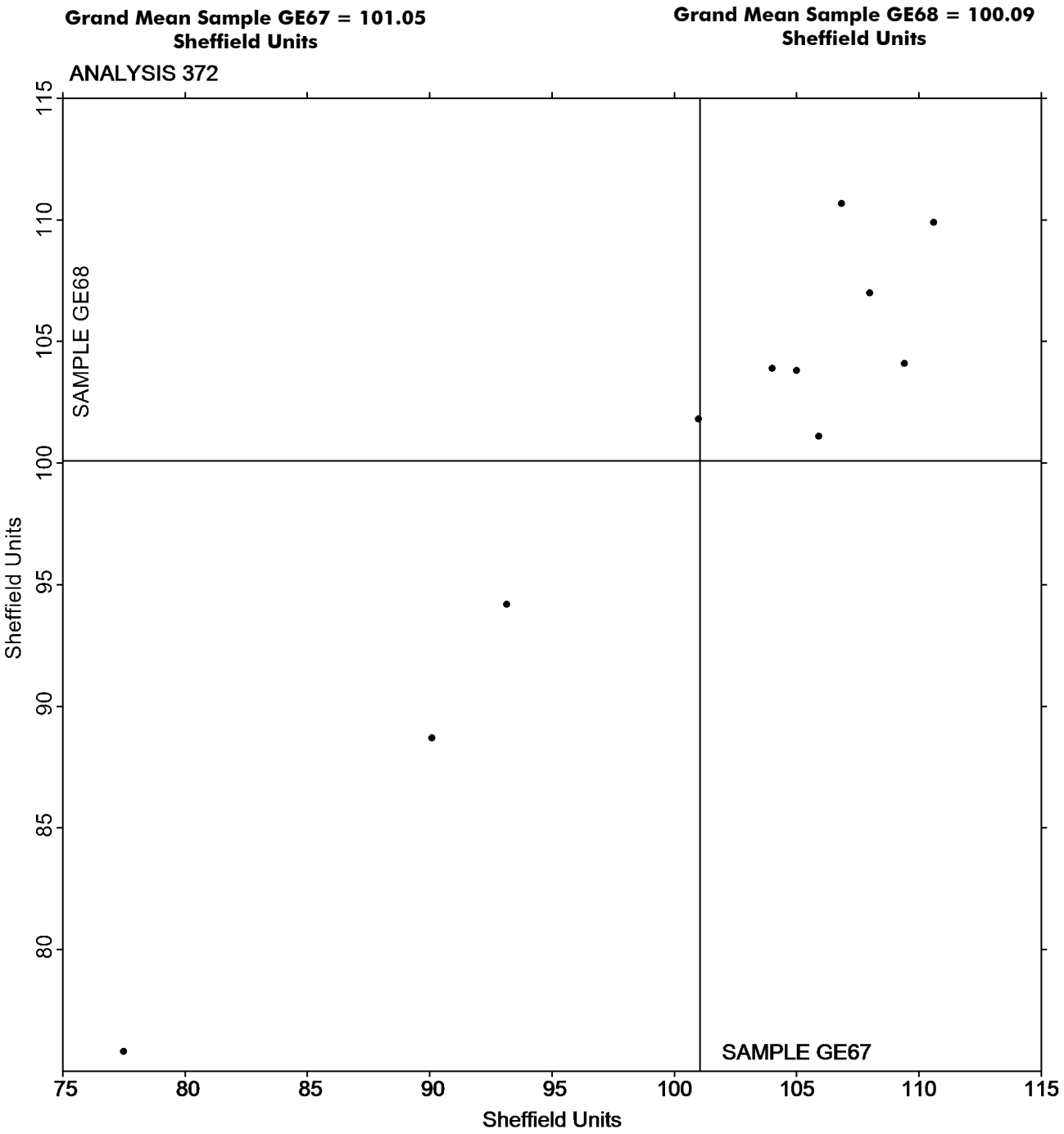
WebCode	Data Flag	Sample GE67 Lab Mean	Sample GE67 Diff from Grand Mean	Sample GE67 CPV	Sample GE68 Lab Mean	Sample GE68 Diff from Grand Mean	Sample GE68 CPV	Instr Code
76VXPJ		104.0	3.0	0.29	103.9	3.8	0.37	HM
7MUDNN		105.0	4.0	0.39	103.8	3.7	0.36	SH
EFMLQC		77.5	-23.5	-2.32	75.8	-24.3	-2.36	SH
G2EK8R		105.9	4.9	0.48	101.1	1.0	0.10	SH
L22GMN		108.0	7.0	0.69	107.0	6.9	0.67	TT
RMKP8V		106.8	5.8	0.57	110.7	10.6	1.03	PP
T493J3		93.2	-7.9	-0.78	94.2	-5.9	-0.57	GA
TXZWJQ		90.1	-10.9	-1.08	88.7	-11.4	-1.11	GA
UHGF8D		101.0	0.0	0.00	101.8	1.7	0.17	HM
X8VDFW		109.4	8.4	0.82	104.1	4.0	0.39	LP
ZVQ4PP		110.6	9.6	0.94	109.9	9.8	0.95	TT

Summary Statistics	Sample GE67	Sample GE68
Grand Means	101.05 Sheffield Units	100.09 Sheffield Units
Stnd Dev Btwn Labs	10.14 Sheffield Units	10.29 Sheffield Units

Statistics based on 11 of 11 reporting participants.

Key to Instrument Codes Reported by Participants

GA	Gurley Precision #4340 Automatic Densometer	HM	Technidyne - Hagerty Model #538
LP	L & W Densometer, Air Permeance	PP	Technidyne Profile/Plus
SH	Sheffield	TT	TMI Monitor/Smoothness II, Model 58-24



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 GJ67 Lab Mean	Sample GJ67 Diff from Grand Mean	Sample GJ67 CPV	Sample GJ68 Lab Mean	Sample GJ68 Diff from Grand Mean	Sample GJ68 CPV	Instr Code
43JBZU		0.7500	-0.0871	-1.59	0.6830	-0.0910	-1.76	ZZ
49Z7GN		0.9330	0.0959	1.75	0.8580	0.0840	1.63	ZZ
7PZXDA		0.7920	-0.0451	-0.82	0.7900	0.0160	0.31	ZZ
AGWWKL		0.7820	-0.0551	-1.01	0.7010	-0.0730	-1.41	ZZ
B3TX99		0.7870	-0.0501	-0.92	0.7260	-0.0480	-0.93	ZZ
C9F8VC		0.8240	-0.0131	-0.24	0.7530	-0.0210	-0.41	ZZ
DMA6G8		0.7990	-0.0381	-0.70	0.7200	-0.0540	-1.04	ZZ
E4AGJG		0.8510	0.0139	0.25	0.8680	0.0940	1.82	ZZ
G9ZDKD	X	1.8050	0.9679	17.68	1.7640	0.9900	19.17	ZZ
HMVAZG		0.8520	0.0149	0.27	0.7330	-0.0410	-0.79	ZZ
HMXY8Y		0.7720	-0.0651	-1.19	0.7830	0.0090	0.17	ZZ
JR7MHF		0.8700	0.0329	0.60	0.7460	-0.0280	-0.54	ZZ
K4DR98	X	1.1110	0.2739	5.00	1.0530	0.2790	5.40	ZZ
LDVVKY		0.8980	0.0609	1.11	0.8140	0.0400	0.78	ZZ
PLXDAY		0.8680	0.0309	0.56	0.8080	0.0340	0.66	ZZ
PWFV4R		0.8700	0.0329	0.60	0.8270	0.0530	1.03	ZZ
QCMCNY		0.8250	-0.0121	-0.22	0.8050	0.0310	0.60	ZZ
RHBE9A		0.9360	0.0989	1.81	0.7990	0.0250	0.48	ZZ
RMKP8V		0.7590	-0.0781	-1.43	0.7610	-0.0130	-0.25	ZZ
RWQGQX		0.8580	0.0209	0.38	0.7530	-0.0210	-0.41	ZZ
TZ77U9		0.8890	0.0519	0.95	0.8190	0.0450	0.87	ZZ
U38PCZ		0.9010	0.0639	1.17	0.8580	0.0840	1.63	ZZ
UHGF8D		0.7690	-0.0681	-1.25	0.7140	-0.0600	-1.16	ZZ
VA8BVM		0.8410	0.0039	0.07	0.7500	-0.0240	-0.46	ZZ
VLZUBE		0.7660	-0.0711	-1.30	0.7220	-0.0520	-1.01	ZZ
VP3NC4		0.8190	-0.0181	-0.33	0.7520	-0.0220	-0.43	ZZ
XXK7KT		0.8220	-0.0151	-0.28	0.7250	-0.0490	-0.95	ZZ
YL4NJA		0.8510	0.0139	0.25	0.7870	0.0130	0.25	ZZ
ZVQ4PP		0.9190	0.0819	1.50	0.8420	0.0680	1.32	ZZ

Summary Statistics	Sample GJ67	Sample GJ68
Grand Means	0.84 Microns	0.77 Microns
Stnd Dev Btwn Labs	0.05 Microns	0.05 Microns

Statistics based on 27 of 29 reporting participants.

Comments on Assigned Data Flags for Test #376

K4DR98 (X) - Data for both samples are high. Possible Systematic Error.

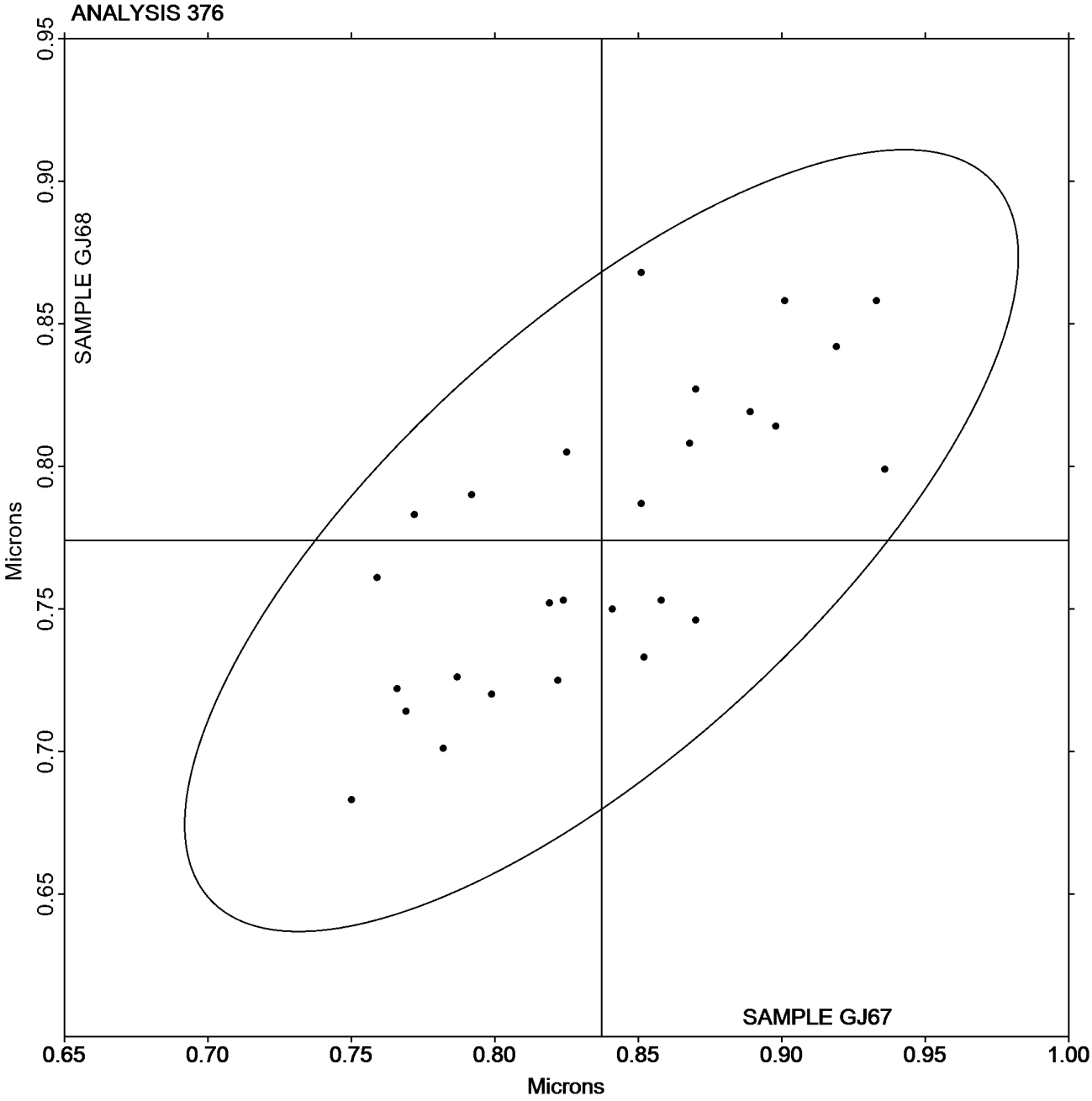
G9ZDKD (X) - Extreme Data.

Key to Instrument Codes Reported by Participants

ZZ Instruments No Longer Tracked

Grand Mean Sample GJ67 = 0.83715 Microns

Grand Mean Sample GJ68 = 0.77396 Microns



Paper & Paperboard Interlaboratory Testing Program

Analysis 377

Roughness - Print Surf Method - 2.5 to 6.0 Microns

TAPPI Official Test Method T555

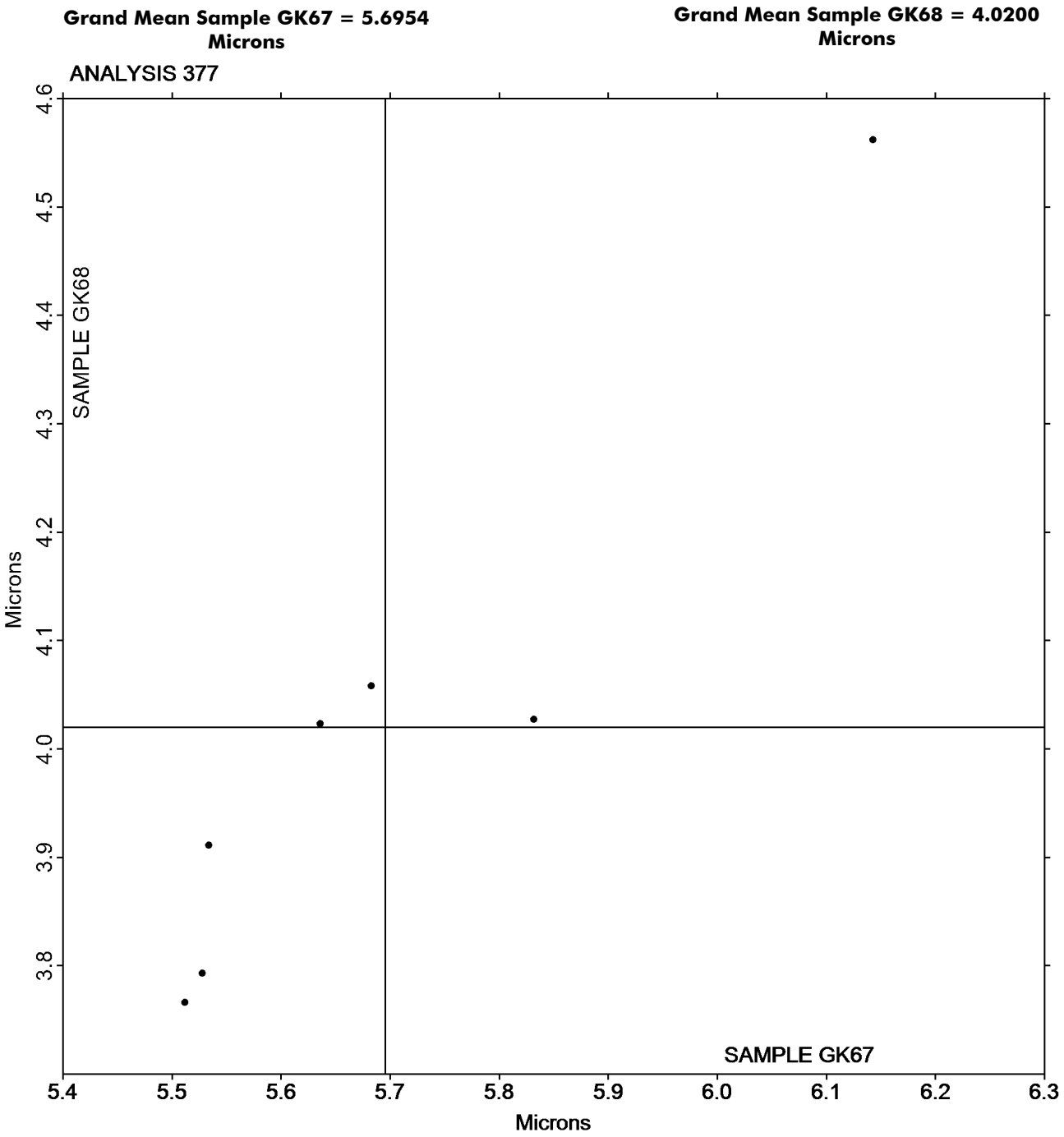
WebCode	Data Flag	Sample GK67 Lab Mean	Sample GK67 Diff from Grand Mean	Sample GK67 CPV	Sample GK68 Lab Mean	Sample GK68 Diff from Grand Mean	Sample GK68 CPV	Instr Code
6C46PV		5.512	-0.183	-0.81	3.766	-0.254	-0.96	ZZ
7JHCNC		5.683	-0.012	-0.05	4.058	0.038	0.14	ZZ
BDV9MB		5.636	-0.059	-0.26	4.023	0.003	0.01	ZZ
DG3JN4		5.534	-0.161	-0.71	3.911	-0.109	-0.41	ZZ
JR7MHF		5.528	-0.167	-0.74	3.793	-0.227	-0.85	ZZ
ZCUULM		5.832	0.137	0.60	4.027	0.007	0.03	ZZ
ZRQX4R		6.143	0.448	1.97	4.562	0.542	2.04	ZZ

Summary Statistics	Sample GK67	Sample GK68
Grand Means	5.70 Microns	4.02 Microns
Stnd Dev Btwn Labs	0.23 Microns	0.27 Microns

Statistics based on 7 of 7 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 GL67 Lab Mean	Sample GL67 Diff from Grand Mean	Sample GL67 CPV	Sample GL68 Lab Mean	Sample GL68 Diff from Grand Mean	Sample GL68 CPV	Instr Code
24H2RH		110.5	-6.8	-0.76	108.9	-8.1	-0.95	PP
3VG6LQ		104.7	-12.6	-1.42	111.9	-5.1	-0.59	LA
49Z7GN		123.8	6.5	0.73	117.7	0.7	0.08	LA
6C46PV		117.5	0.2	0.02	120.4	3.4	0.40	LA
7JHCNC		113.9	-3.4	-0.38	115.6	-1.4	-0.17	PP
7MUDNN		112.1	-5.2	-0.59	116.0	-1.0	-0.12	SH
98RMKM		103.4	-13.9	-1.56	108.2	-8.8	-1.03	PP
99M98M		96.0	-21.3	-2.40	96.0	-21.0	-2.46	XX
9G3P7N		114.2	-3.0	-0.34	115.3	-1.7	-0.20	PP
ARCQWE		115.1	-2.2	-0.25	117.0	0.0	0.00	XX
B3TX99		116.1	-1.2	-0.13	111.3	-5.7	-0.67	LA
BDTJJD		109.9	-7.4	-0.83	110.8	-6.2	-0.73	LW
BDV9MB		115.6	-1.7	-0.19	111.9	-5.1	-0.60	PP
CJDYMB		117.8	0.5	0.05	117.8	0.8	0.09	PP
DG3JN4		123.6	6.3	0.71	116.0	-1.1	-0.12	PP
DMA6G8		122.5	5.2	0.59	121.2	4.2	0.49	HM
E4AGJG		111.2	-6.1	-0.69	106.3	-10.7	-1.26	PP
EKK6UW		106.8	-10.5	-1.18	108.1	-8.9	-1.04	SH
G2EK8R	*	141.4	24.1	2.71	143.8	26.8	3.14	XX
HFG928		111.6	-5.7	-0.64	115.7	-1.3	-0.15	PP
HMVAZG		123.1	5.8	0.65	129.1	12.1	1.42	PP
HTJYEY		117.3	0.0	0.00	119.1	2.1	0.25	PP
JFBH79		115.3	-2.0	-0.22	117.1	0.1	0.01	HM
JR7MHF		122.0	4.7	0.53	124.9	7.9	0.92	XX
JTVX99		107.8	-9.5	-1.07	108.1	-8.9	-1.04	TT
L22GMN	*	141.0	23.7	2.67	136.0	19.0	2.23	TT
LDVVKY		117.4	0.1	0.01	117.4	0.4	0.05	PP
NAQYX3		113.3	-4.0	-0.45	111.8	-5.2	-0.61	TS
QCMCNY		107.6	-9.7	-1.09	111.4	-5.6	-0.66	HM
QZXFNL		118.0	0.7	0.08	111.0	-6.0	-0.70	SH
RHBE9A		122.7	5.4	0.61	119.6	2.6	0.30	LW
RMKP8V		115.2	-2.1	-0.24	114.9	-2.1	-0.25	HM
RWQGQX		113.1	-4.2	-0.47	115.8	-1.2	-0.14	PP
T493J3		115.2	-2.1	-0.24	112.0	-5.0	-0.59	PP
TXZWJQ		121.8	4.5	0.51	119.2	2.2	0.26	GA
U38PCZ		130.6	13.3	1.50	123.5	6.5	0.76	LW
UN9MQL		116.3	-1.0	-0.11	121.0	4.0	0.47	GA
VCNVG3		131.7	14.4	1.62	131.3	14.3	1.67	PP
VLZUBE		132.0	14.7	1.65	133.5	16.5	1.93	GL
VP3NC4		124.8	7.5	0.84	123.9	6.9	0.81	PP
X8VDFW		123.4	6.1	0.69	113.3	-3.7	-0.44	LW

Paper & Paperboard Interlaboratory Testing Program

Analysis 378

Roughness - Sheffield Type

TAPPI Official Test Method T538

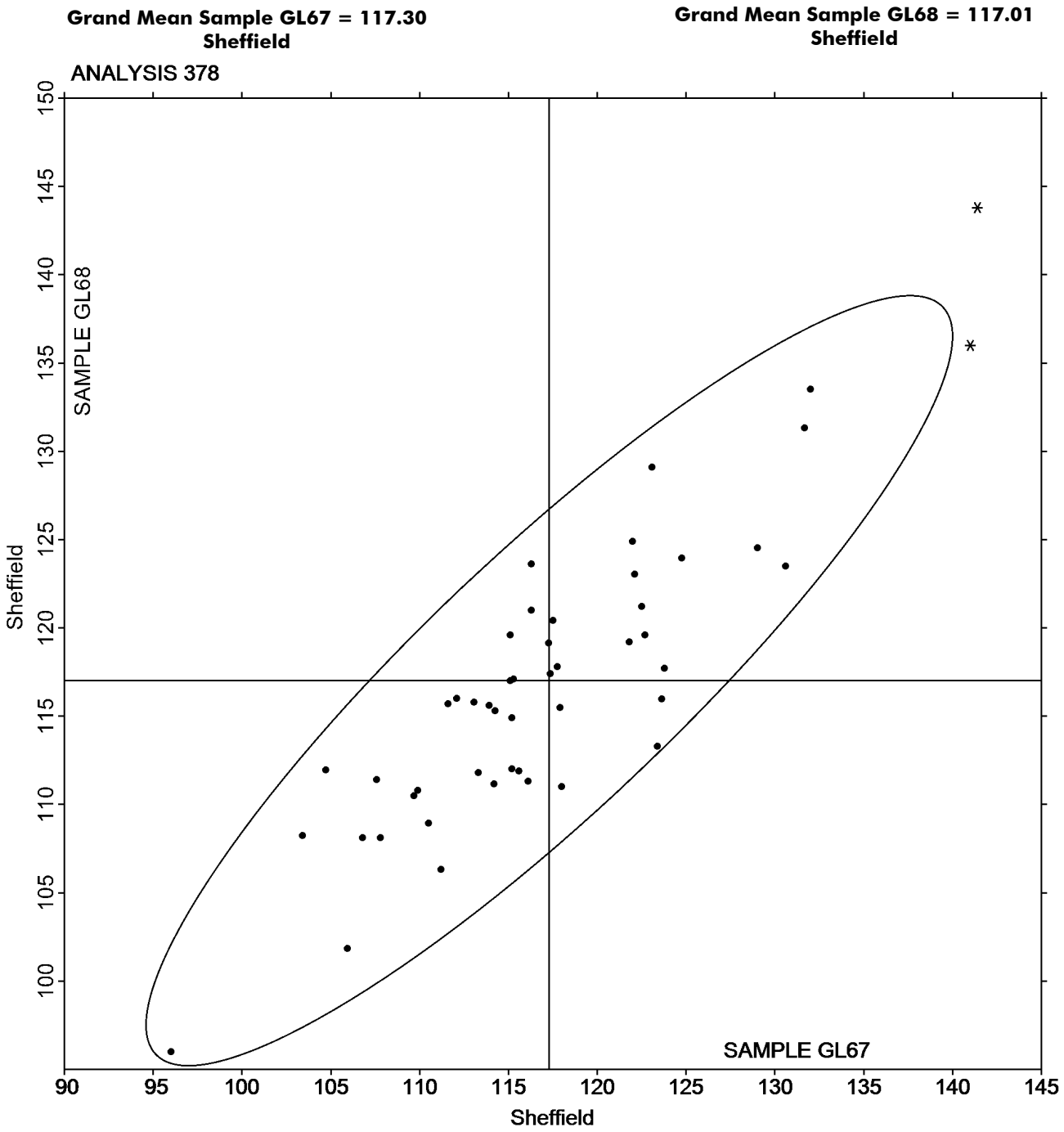
WebCode	Data Flag	Sample GL67 Lab Mean	Sample GL67 Diff from Grand Mean	Sample GL67 CPV	Sample GL68 Lab Mean	Sample GL68 Diff from Grand Mean	Sample GL68 CPV	Instr Code
XDWPCT		114.2	-3.1	-0.35	111.2	-5.8	-0.68	PP
XXK7KT		109.7	-7.6	-0.86	110.5	-6.5	-0.76	TS
YB4B6V		122.1	4.8	0.54	123.0	6.0	0.70	LA
YNQKRZ		129.0	11.7	1.32	124.5	7.5	0.88	GA
Z4KAHQ		117.9	0.6	0.07	115.5	-1.5	-0.18	PP
ZRQX4R		115.1	-2.2	-0.25	119.6	2.6	0.30	LW
ZUWHUD		105.9	-11.4	-1.28	101.9	-15.2	-1.78	MP
ZVQ4PP		116.3	-1.0	-0.11	123.6	6.6	0.77	TT

Summary Statistics	Sample GL67	Sample GL68
Grand Means	117.30 Sheffield	117.01 Sheffield
Stnd Dev Btwn Labs	8.88 Sheffield	8.53 Sheffield

Statistics based on 49 of 49 reporting participants.

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
XX	Instrument make/model not specified by lab		



Paper & Paperboard Interlaboratory Testing Program

Analysis 382
Moisture in Paper
TAPPI Official Test Method T412

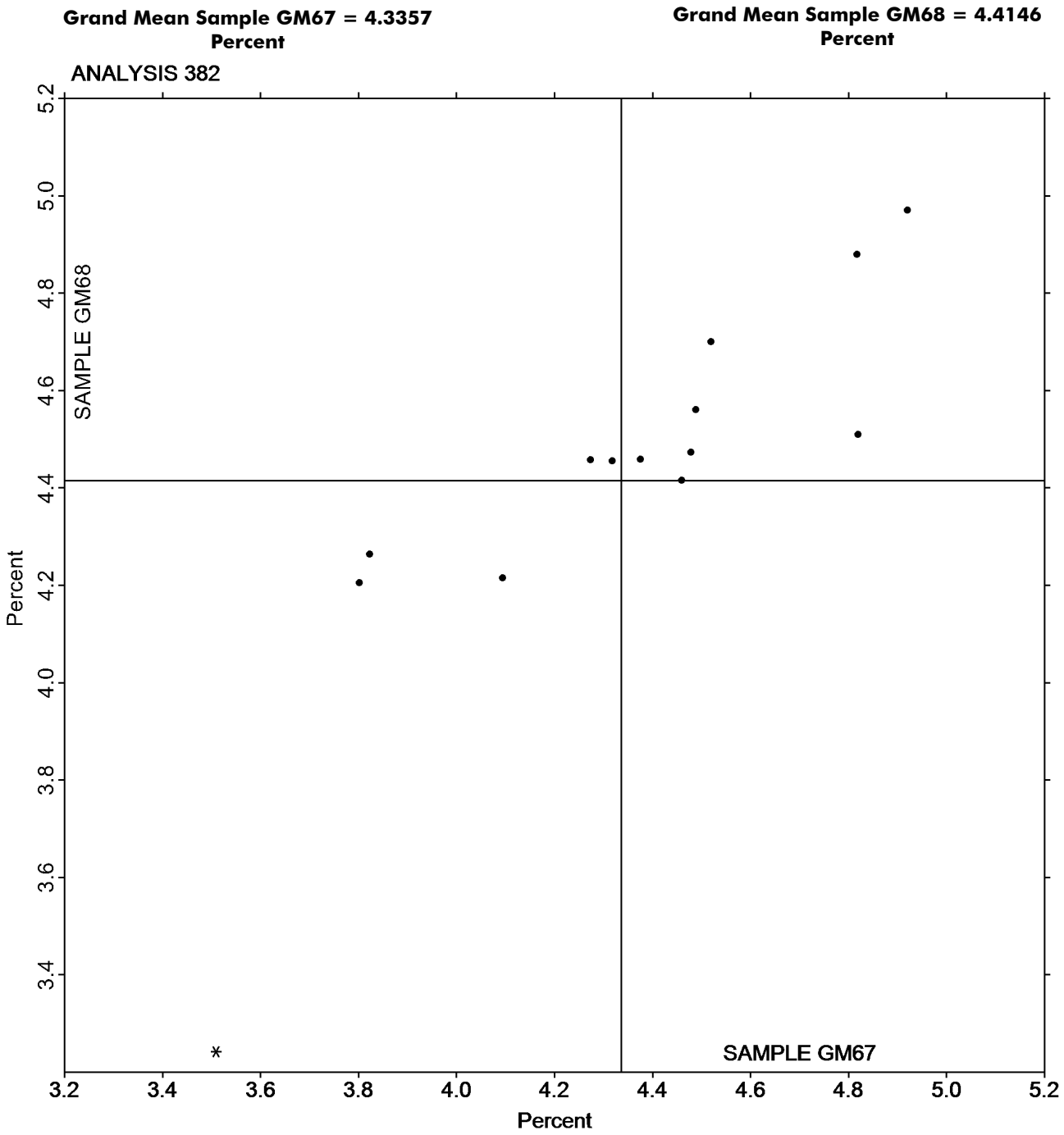
WebCode	Data Flag	Sample GM67 Lab Mean	Sample GM67 Diff from Grand Mean	Sample GM67 CPV	Sample GM68 Lab Mean	Sample GM68 Diff from Grand Mean	Sample GM68 CPV	Instr Code
2CT7XG		4.520	0.184	0.45	4.700	0.285	0.71	ZZ
4UNFYP		3.823	-0.513	-1.25	4.263	-0.151	-0.37	ZZ
7JHCNC		4.817	0.482	1.17	4.879	0.465	1.15	ZZ
GA9PZT		4.318	-0.018	-0.04	4.455	0.040	0.10	ZZ
HGQHPX		4.094	-0.242	-0.59	4.215	-0.200	-0.49	ZZ
K67QGE		3.802	-0.534	-1.30	4.205	-0.210	-0.52	ZZ
L9LH32		4.460	0.124	0.30	4.415	0.000	0.00	ZZ
QEBNPP		4.820	0.484	1.18	4.510	0.095	0.24	ZZ
RNDMF3		4.479	0.143	0.35	4.473	0.058	0.14	ZZ
UV6HQ7	*	3.509	-0.827	-2.01	3.242	-1.173	-2.90	ZZ
W4CYCW		4.920	0.584	1.42	4.970	0.555	1.37	ZZ
WZDP3U		4.489	0.153	0.37	4.560	0.146	0.36	ZZ
YDUCBJ		4.274	-0.062	-0.15	4.458	0.043	0.11	ZZ
YL4NJA		4.375	0.039	0.10	4.459	0.044	0.11	ZZ

Summary Statistics	Sample GM67	Sample GM68
Grand Means	4.34 Percent	4.41 Percent
Stnd Dev Btwn Labs	0.41 Percent	0.40 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 GN67 Lab Mean	Sample GN67 Diff from Grand Mean	Sample GN67 CPV	Sample GN68 Lab Mean	Sample GN68 Diff from Grand Mean	Sample GN68 CPV	Instr Code
24H2RH		89.61	0.38	0.49	89.76	0.56	0.62	ZZ
3VG6LQ	X	93.17	3.94	5.06	93.25	4.05	4.52	ZZ
6C46PV		89.89	0.67	0.86	89.75	0.54	0.60	ZZ
7JHCNC		88.79	-0.44	-0.56	88.46	-0.74	-0.83	ZZ
7MUDNN		88.92	-0.31	-0.39	88.91	-0.29	-0.33	ZZ
7PZXDA		88.74	-0.49	-0.62	89.05	-0.16	-0.17	ZZ
8T24TF		87.91	-1.31	-1.69	87.72	-1.49	-1.66	ZZ
99M98M		89.28	0.06	0.07	89.76	0.55	0.62	ZZ
AGWWKL		87.86	-1.36	-1.75	88.12	-1.09	-1.22	ZZ
ARCQWE	*	91.70	2.47	3.18	91.93	2.73	3.05	ZZ
BDV9MB		89.22	0.00	0.00	88.93	-0.28	-0.31	ZZ
CJDYMB		89.20	-0.02	-0.03	88.94	-0.26	-0.29	ZZ
DG3JN4		88.55	-0.68	-0.87	88.59	-0.61	-0.69	ZZ
DMA6G8		89.52	0.29	0.38	89.36	0.16	0.17	ZZ
EVH2XJ		89.10	-0.13	-0.16	89.21	0.01	0.01	ZZ
G2EK8R	*	88.72	-0.51	-0.65	87.51	-1.69	-1.89	ZZ
G9ZDKD		87.66	-1.57	-2.01	87.52	-1.69	-1.89	ZZ
HFG928		89.50	0.27	0.35	89.84	0.64	0.71	ZZ
JFBH79		88.47	-0.76	-0.97	89.04	-0.16	-0.18	ZZ
L22GMN		88.91	-0.32	-0.40	88.89	-0.31	-0.35	ZZ
NAQYX3		90.35	1.12	1.44	89.89	0.69	0.77	ZZ
PLXDAY		89.52	0.29	0.38	89.01	-0.19	-0.22	ZZ
QCMCNY		89.23	0.00	0.01	89.68	0.48	0.53	ZZ
QZXFNL		89.19	-0.04	-0.05	89.28	0.08	0.08	ZZ
RWQGQX		90.08	0.85	1.09	90.12	0.91	1.02	ZZ
T493J3		89.11	-0.12	-0.15	88.78	-0.42	-0.47	ZZ
TZ77U9		89.80	0.57	0.74	89.22	0.02	0.02	ZZ
VA8BVM		89.69	0.46	0.60	90.50	1.29	1.45	ZZ
VCNVG3		89.44	0.22	0.28	89.29	0.08	0.09	ZZ
YP8J3C		89.27	0.05	0.06	89.13	-0.08	-0.09	ZZ
ZVQ4PP		89.52	0.29	0.38	89.97	0.77	0.86	ZZ

Summary Statistics	Sample GN67	Sample GN68
Grand Means	89.23 Percent	89.20 Percent
Stnd Dev Btwn Labs	0.78 Percent	0.89 Percent

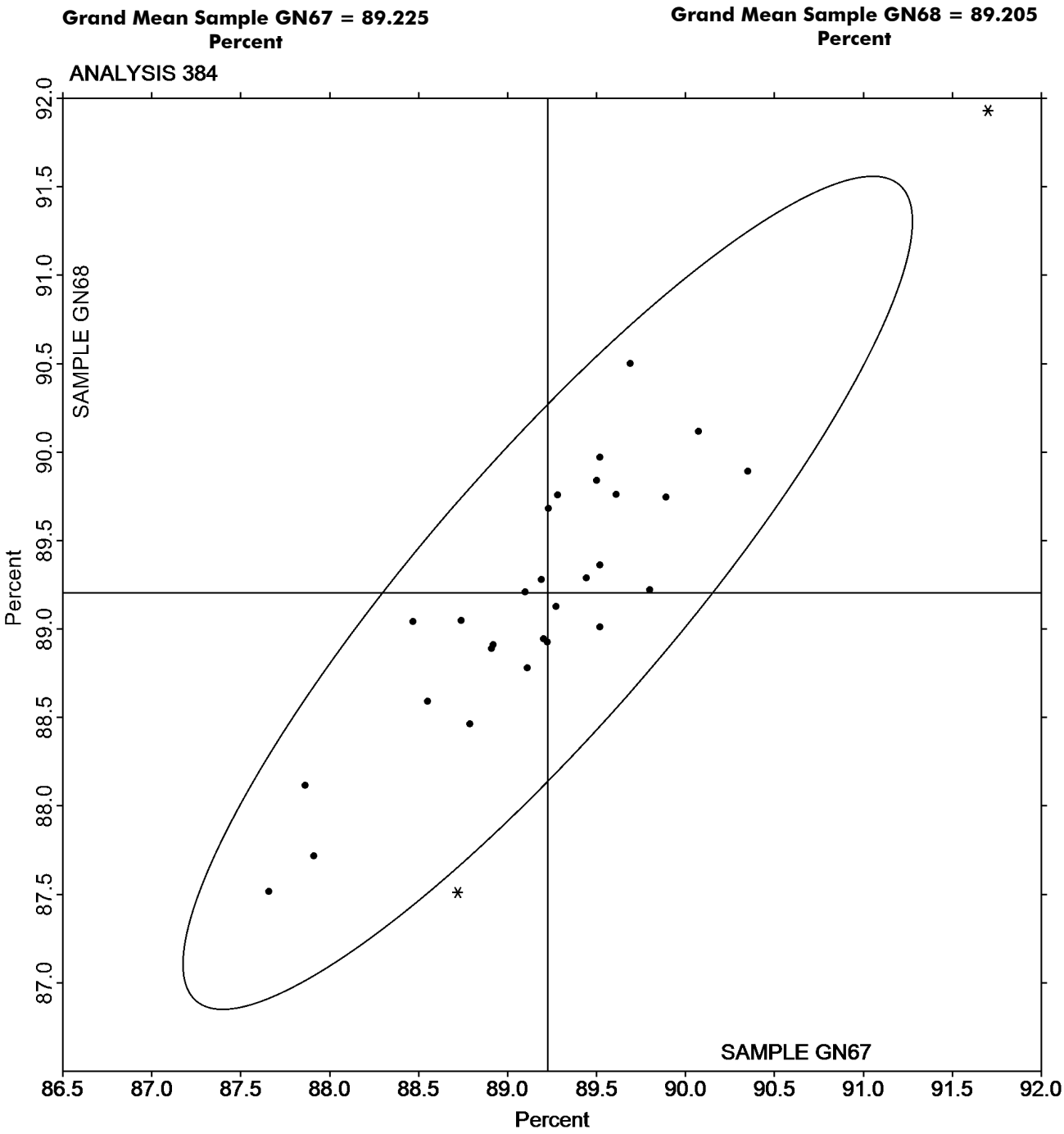
Statistics based on 30 of 31 reporting participants.

Comments on Assigned Data Flags for Test #384

3VG6LQ (X) - Data for both samples are high. Possible Systematic Error.

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

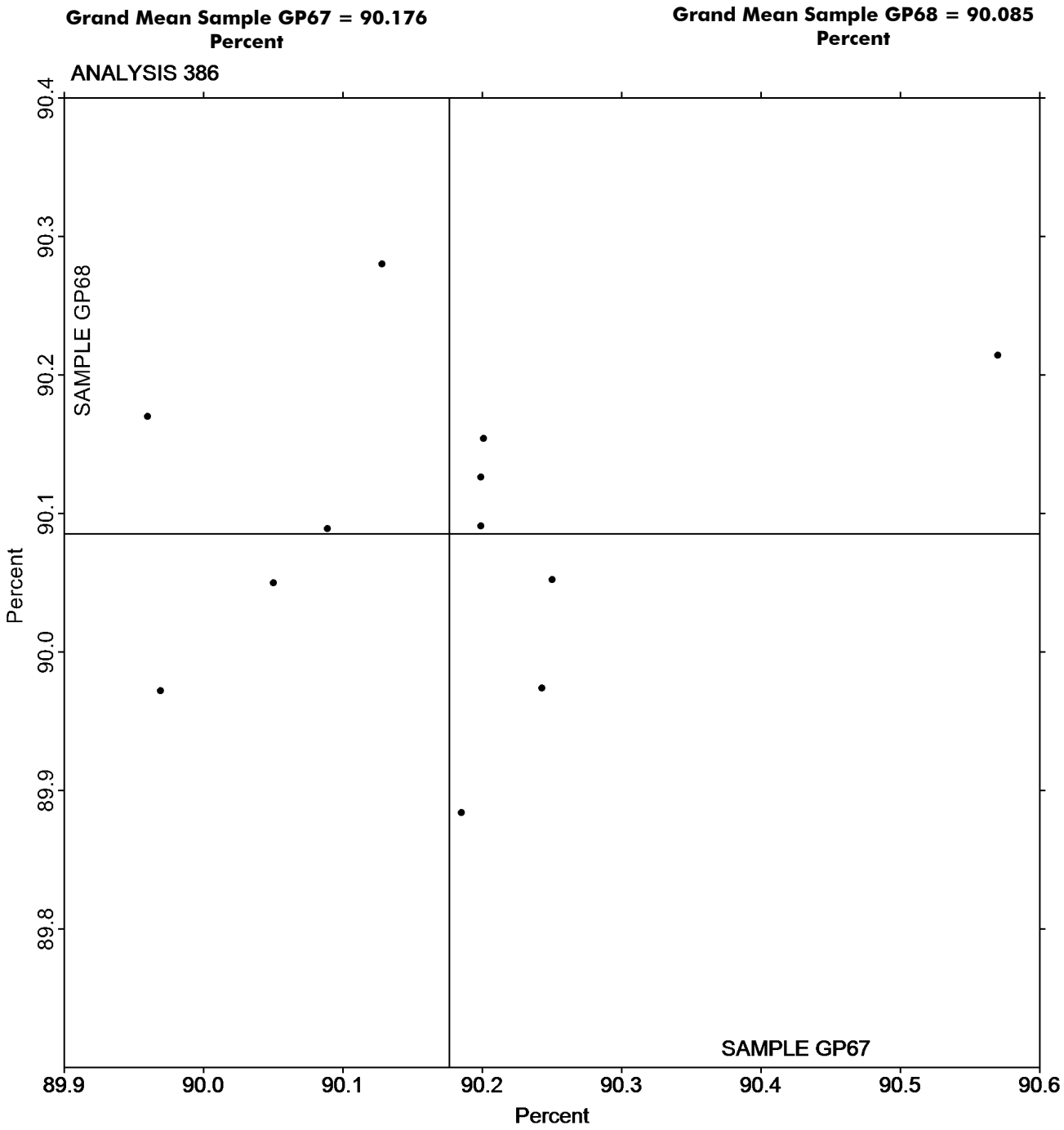
WebCode	Data Flag	Sample GP67 Lab Mean	Sample GP67 Diff from Grand Mean	Sample GP67 CPV	Sample GP68 Lab Mean	Sample GP68 Diff from Grand Mean	Sample GP68 CPV	Instr Code
2A4RFY		90.24	0.07	0.43	89.97	-0.11	-1.04	ZZ
3U789A		90.05	-0.13	-0.82	90.05	-0.04	-0.33	ZZ
9F7CKG		89.97	-0.21	-1.34	89.97	-0.11	-1.06	ZZ
A93RRK		90.09	-0.09	-0.56	90.09	0.00	0.04	ZZ
GA9PZT		90.19	0.01	0.06	89.88	-0.20	-1.88	ZZ
HGQHPX		90.13	-0.05	-0.31	90.28	0.19	1.82	ZZ
HKQJX8		90.25	0.07	0.48	90.05	-0.03	-0.31	ZZ
J76QM7		90.25	0.07	0.48	90.05	-0.03	-0.31	ZZ
K8W7C9		89.96	-0.22	-1.40	90.17	0.08	0.79	ZZ
PWFV4R		90.20	0.02	0.15	90.09	0.01	0.05	ZZ
RAYA4W		90.20	0.02	0.16	90.15	0.07	0.64	ZZ
UN7ZBU		90.57	0.39	2.54	90.21	0.13	1.20	ZZ
YCW9D2		90.20	0.02	0.15	90.13	0.04	0.38	ZZ

Summary Statistics	Sample GP67	Sample GP68
Grand Means	90.18 Percent	90.09 Percent
Stnd Dev Btwn Labs	0.15 Percent	0.11 Percent

Statistics based on 13 of 13 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 GR67 Lab Mean	Sample GR67 Diff from Grand Mean	Sample GR67 CPV	Sample GR68 Lab Mean	Sample GR68 Diff from Grand Mean	Sample GR68 CPV	Instr Code
24H2RH		82.89	-1.79	-1.04	82.15	-1.91	-1.11	TT
2CT7XG		88.55	3.88	2.26	88.26	4.21	2.45	TS
2LVLNL		85.27	0.59	0.35	84.59	0.53	0.31	TS
6C46PV		83.82	-0.86	-0.50	83.04	-1.02	-0.59	TS
8T24TF		84.85	0.18	0.10	83.83	-0.23	-0.13	TS
98RMKM		83.37	-1.30	-0.76	82.63	-1.43	-0.83	TS
99M98M		84.51	-0.17	-0.10	83.97	-0.08	-0.05	XX
9G3P7N		82.96	-1.71	-1.00	82.34	-1.72	-1.00	TS
AGWWKL		85.25	0.58	0.34	84.73	0.67	0.39	TS
ARCQWE		86.63	1.95	1.14	86.54	2.48	1.44	XX
CJDYMB		83.40	-1.27	-0.74	82.51	-1.54	-0.90	TP
DMA6G8		83.37	-1.30	-0.76	82.56	-1.50	-0.87	TS
G2EK8R		87.86	3.19	1.86	87.08	3.02	1.76	PE
G9ZDKD		85.97	1.30	0.76	85.06	1.00	0.58	VM
HFG928		83.73	-0.95	-0.55	82.95	-1.11	-0.64	XX
HMVAZG		84.74	0.07	0.04	84.01	-0.05	-0.03	HG
L22GMN		85.25	0.58	0.34	85.00	0.94	0.55	TS
L9LH32		84.04	-0.64	-0.37	83.43	-0.63	-0.36	XX
LDVVKY		83.06	-1.61	-0.94	82.31	-1.74	-1.02	PP
PLXDAY		83.28	-1.40	-0.82	82.56	-1.49	-0.87	TT
RHBE9A		88.71	4.04	2.35	87.79	3.73	2.17	HZ
RWQGQX		85.35	0.68	0.39	84.75	0.69	0.40	TT
T493J3		83.85	-0.82	-0.48	83.71	-0.34	-0.20	XC
U38PCZ		82.91	-1.76	-1.03	82.93	-1.13	-0.66	TT
VLZUBE		82.29	-2.39	-1.39	82.13	-1.93	-1.12	TS
VP3NC4		85.50	0.83	0.48	84.70	0.65	0.38	HG
ZRQX4R		84.78	0.11	0.06	84.01	-0.05	-0.03	HG

Summary Statistics	Sample GR67	Sample GR68
Grand Means	84.67 Percent	84.06 Percent
Stnd Dev Btwn Labs	1.71 Percent	1.72 Percent

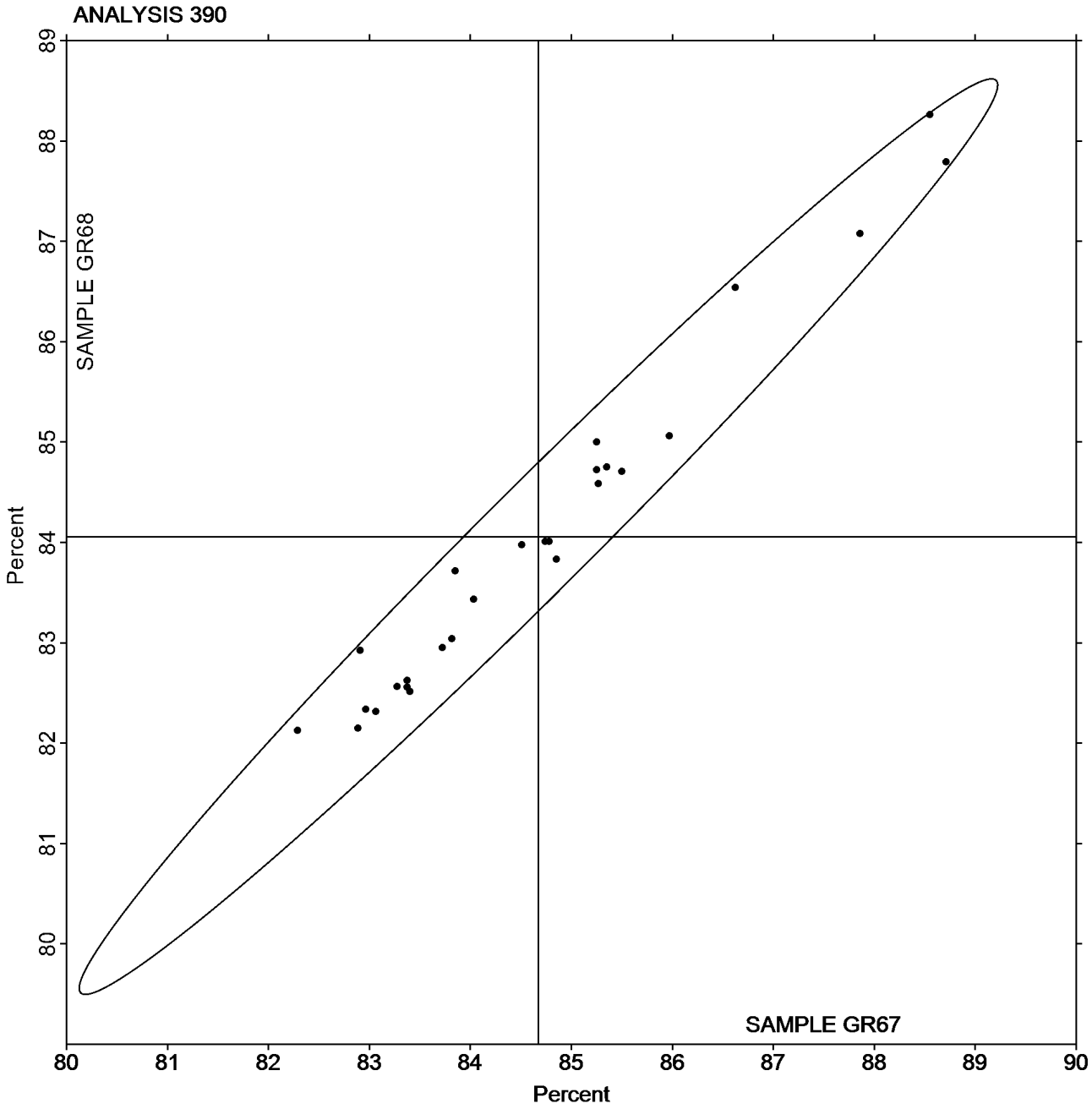
Statistics based on 27 of 27 reporting participants.

Key to Instrument Codes Reported by Participants

HG	Hunter Labscan / XE	HZ	Hunter Lab ColorFlex EZ Series
PE	Photovolt 577	PP	Technidyne Profile/Plus
TP	Technidyne Test/Plus	TS	Technidyne Brightimeter Micro S-5
TT	Technidyne Brightimeter Micro S4-M	VM	Valmet PaperLab (was Kajaani/Robotest)
XC	X-Rite Color i5	XX	Instrument make/model not specified by lab

Grand Mean Sample GR67 = 84.674 Percent

Grand Mean Sample GR68 = 84.057 Percent



Paper & Paperboard Interlaboratory Testing Program

Analysis 391

Directional Brightness of Fluorescent Samples

TAPPI Official Test Method T452

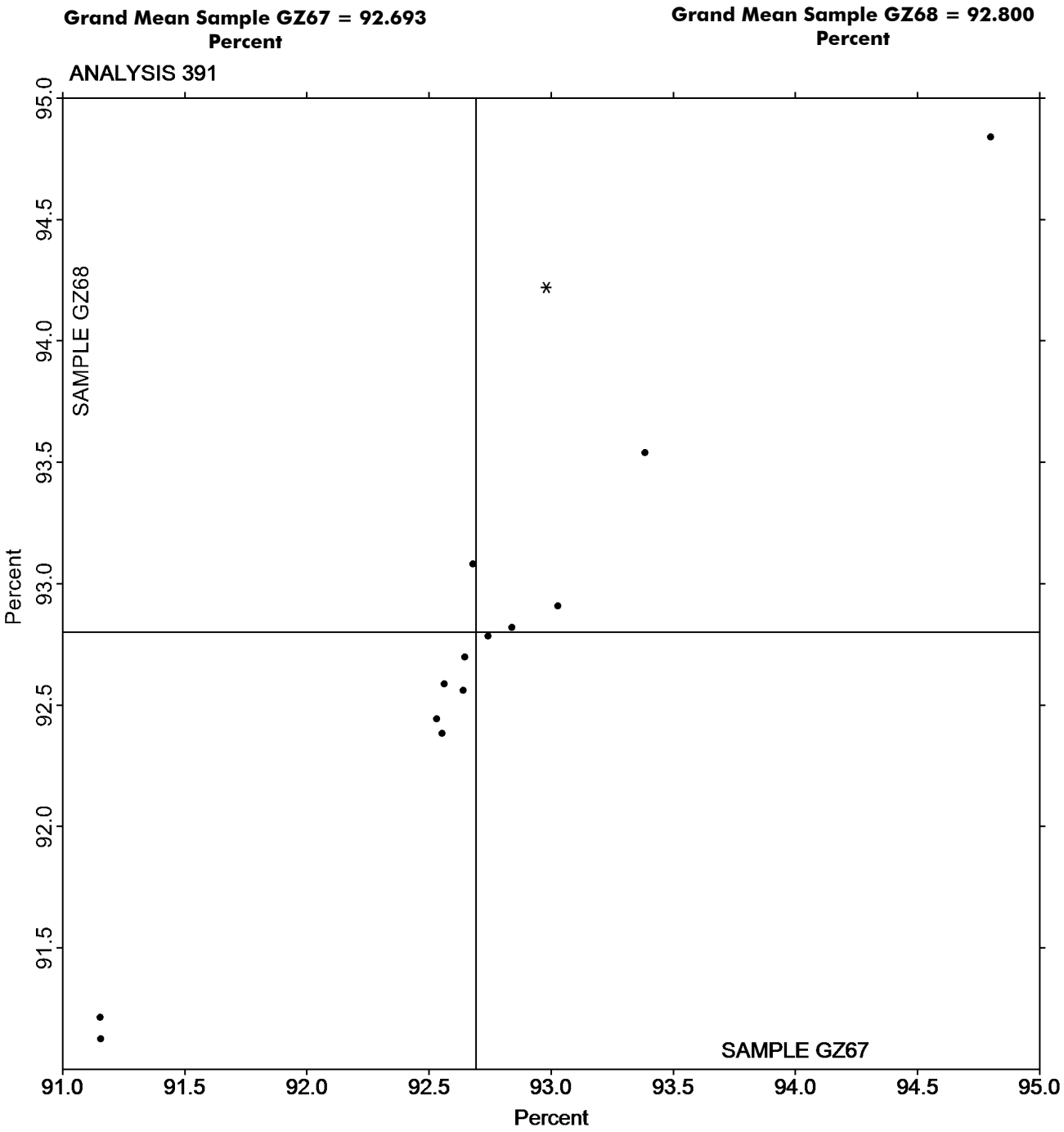
WebCode	Data Flag	Sample GZ67 Lab Mean	Sample GZ67 Diff from Grand Mean	Sample GZ67 CPV	Sample GZ68 Lab Mean	Sample GZ68 Diff from Grand Mean	Sample GZ68 CPV	Instr Code
3VG6LQ		92.64	-0.05	-0.06	92.56	-0.24	-0.24	TT
7JHCNC		92.74	0.05	0.06	92.78	-0.02	-0.02	TS
7PZXDA		93.03	0.34	0.38	92.91	0.11	0.11	PP
99M98M		93.38	0.69	0.79	93.54	0.74	0.75	XX
A93RRK		92.55	-0.14	-0.16	92.38	-0.42	-0.42	TS
DG3JN4		92.65	-0.05	-0.05	92.70	-0.10	-0.10	TS
JFBH79		91.16	-1.54	-1.76	91.13	-1.67	-1.70	HT
NAQYX3		92.84	0.15	0.17	92.82	0.02	0.02	TS
QCMCNY		92.68	-0.01	-0.01	93.08	0.28	0.28	TT
QZXFNL		91.15	-1.54	-1.76	91.21	-1.59	-1.61	HT
TZ77U9		92.53	-0.16	-0.18	92.44	-0.36	-0.36	PP
VA8BVM		92.56	-0.13	-0.15	92.59	-0.21	-0.22	TS
VCNVG3	*	92.98	0.29	0.33	94.22	1.42	1.45	PP
ZVQ4PP		94.80	2.11	2.41	94.84	2.04	2.08	TT

Summary Statistics	Sample GZ67	Sample GZ68
Grand Means	92.69 Percent	92.80 Percent
Stnd Dev Btwn Labs	0.87 Percent	0.98 Percent

Statistics based on 14 of 14 reporting participants.

Key to Instrument Codes Reported by Participants

HT	Hunter UltraScan Vis	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

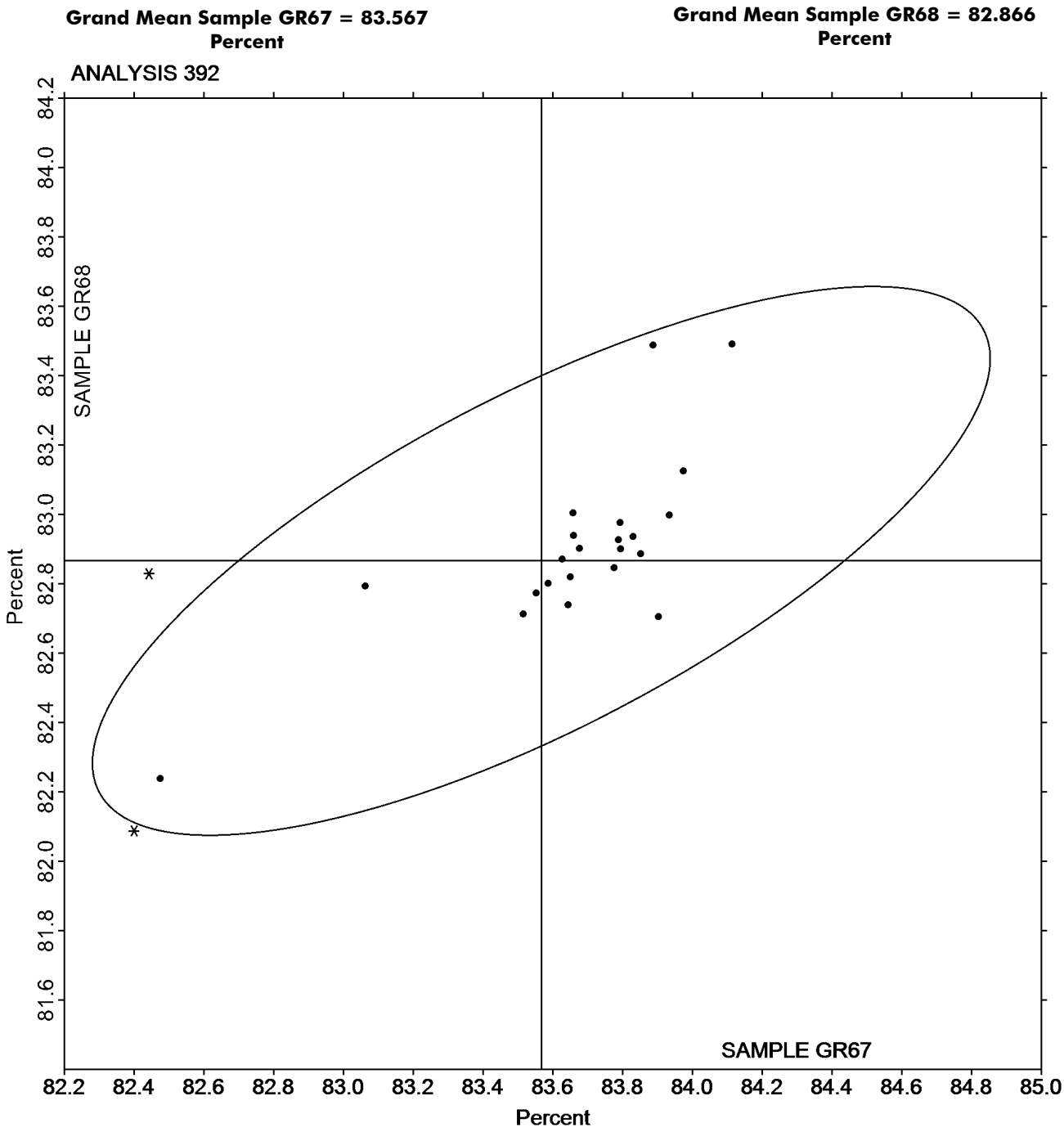
WebCode	Data Flag	Sample GR67 Lab Mean	Sample GR67 Diff from Grand Mean	Sample GR67 CPV	Sample GR68 Lab Mean	Sample GR68 Diff from Grand Mean	Sample GR68 CPV	Instr Code
2A4RFY		83.65	0.08	0.17	82.82	-0.05	-0.16	LE
2LVLNL		83.64	0.08	0.16	82.74	-0.13	-0.43	TC
3U789A		83.68	0.11	0.23	82.90	0.04	0.12	LA
4MLLKN		83.66	0.09	0.19	82.94	0.07	0.25	TC
6C46PV		83.79	0.23	0.47	82.98	0.11	0.37	TC
98VAYF		83.78	0.21	0.44	82.85	-0.02	-0.07	TC
9F7CKG		83.83	0.26	0.55	82.94	0.07	0.24	TC
A8TMCB		83.63	0.06	0.13	82.87	0.00	0.01	TC
A93RRK		83.80	0.23	0.48	82.90	0.03	0.12	TC
BDTJJD		83.89	0.32	0.67	83.49	0.62	2.11	EF
DMA6G8		83.90	0.34	0.70	82.71	-0.16	-0.55	LT
GA9PZT		83.59	0.02	0.04	82.80	-0.06	-0.22	EG
HGQHPX		83.55	-0.01	-0.03	82.77	-0.09	-0.32	LE
HMXY8Y		83.93	0.37	0.77	83.00	0.13	0.45	TC
JV3BW2	*	82.44	-1.12	-2.35	82.83	-0.04	-0.13	TC
K4DR98		83.79	0.22	0.46	82.93	0.06	0.20	TC
K8W7C9		83.98	0.41	0.85	83.13	0.26	0.88	TM
L9LH32		84.11	0.55	1.14	83.49	0.63	2.12	EE
LDVVKY		83.52	-0.05	-0.11	82.71	-0.15	-0.52	LT
PWFV4R		83.66	0.09	0.19	83.00	0.14	0.47	AC
U38PCZ		82.48	-1.09	-2.28	82.24	-0.63	-2.13	EG
W6L4QK	*	82.40	-1.17	-2.43	82.09	-0.78	-2.64	TZ
Z4KAHQ		83.85	0.29	0.60	82.89	0.02	0.07	TC
ZRQX4R		83.06	-0.50	-1.05	82.79	-0.07	-0.24	TC

Summary Statistics	Sample GR67	Sample GR68
Grand Means	83.57 Percent	82.87 Percent
Stnd Dev Btwn Labs	0.48 Percent	0.29 Percent

Statistics based on 24 of 24 reporting participants.

Key to Instrument Codes Reported by Participants

AC	ACS Spectro-Sensor II	EE	Datacolor Elrepho 2000
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
TM	Technidyne Technibrite Micro TB-1C	TZ	Technibrite Model TB-1



Paper & Paperboard Interlaboratory Testing Program

Analysis 394

Fluorescent Component of Directional Brightness

TAPPI Official Test Method T452

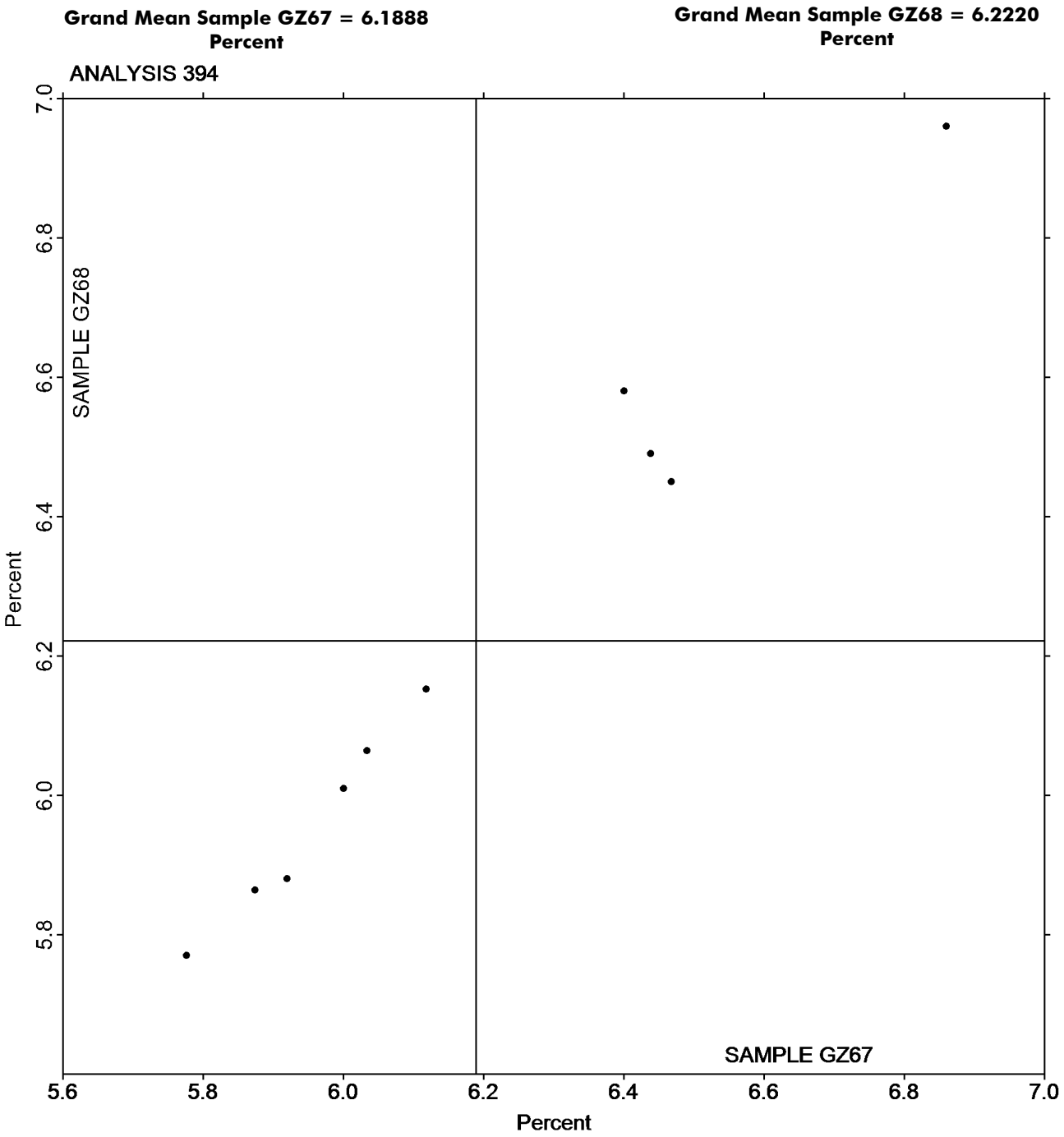
WebCode	Data Flag	Sample GZ67 Lab Mean	Sample GZ67 Diff from Grand Mean	Sample GZ67 CPV	Sample GZ68 Lab Mean	Sample GZ68 Diff from Grand Mean	Sample GZ68 CPV	Instr Code
3VG6LQ		5.920	-0.269	-0.79	5.880	-0.342	-0.89	TT
7JHCNC		6.118	-0.071	-0.21	6.152	-0.070	-0.18	TS
7PZXDA		6.468	0.279	0.82	6.450	0.228	0.60	PP
99M98M		5.776	-0.413	-1.21	5.770	-0.452	-1.18	XX
A93RRK		6.034	-0.155	-0.46	6.064	-0.158	-0.41	TS
DG3JN4		6.438	0.249	0.73	6.490	0.268	0.70	TS
QCMCNY		6.860	0.671	1.97	6.960	0.738	1.93	TT
TZ77U9		6.000	-0.189	-0.55	6.010	-0.212	-0.55	PP
VA8BVM		5.874	-0.315	-0.93	5.864	-0.358	-0.93	TS
VCNVG3		6.400	0.211	0.62	6.580	0.358	0.93	PP

Summary Statistics	Sample GZ67	Sample GZ68
Grand Means	6.19 Percent	6.22 Percent
Stnd Dev Btwn Labs	0.34 Percent	0.38 Percent

Statistics based on 10 of 10 reporting participants.

Key to Instrument Codes Reported by Participants

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

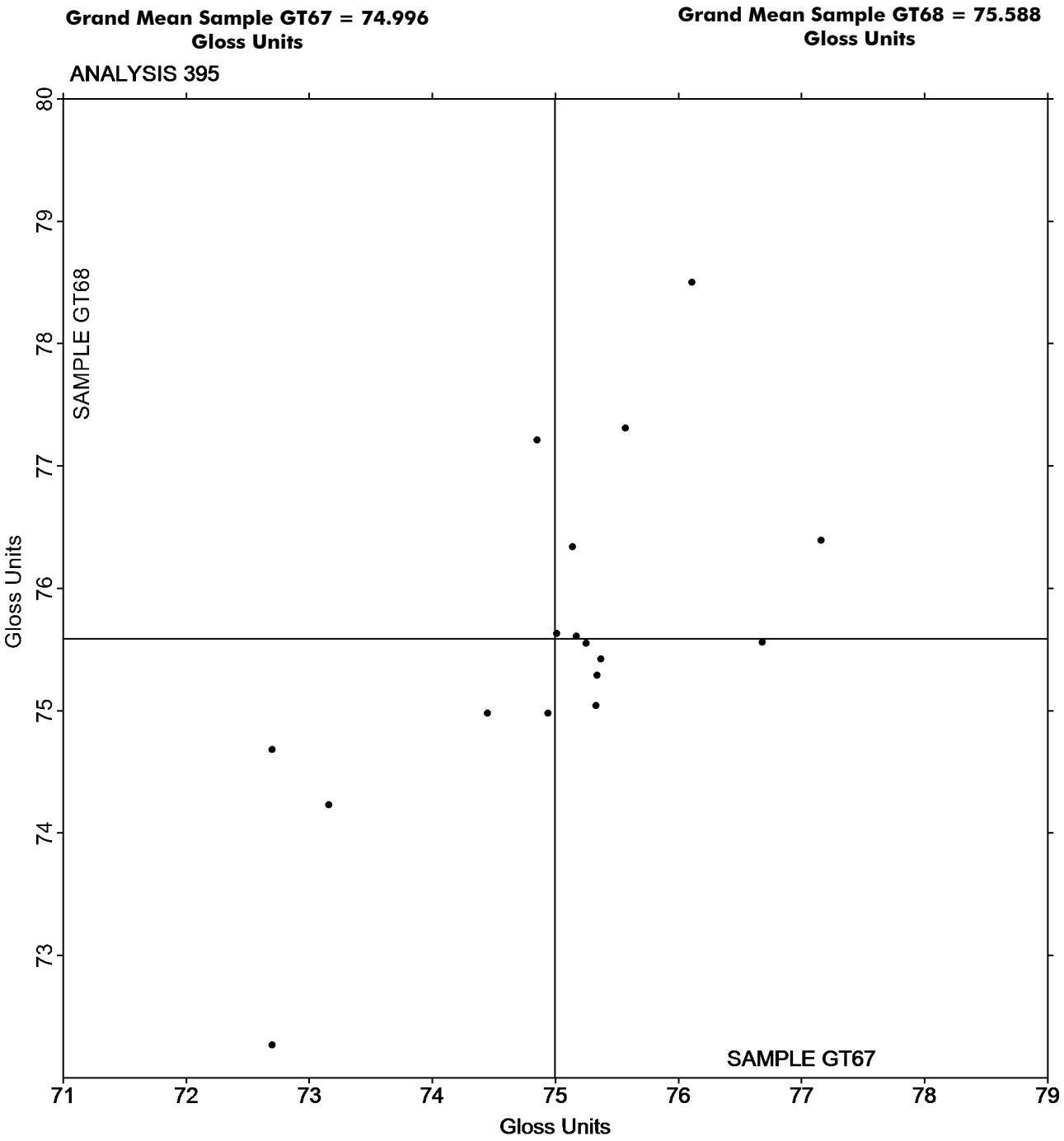
WebCode	Data Flag	Sample GT67 Lab Mean	Sample GT67 Diff from Grand Mean	Sample GT67 CPV	Sample GT68 Lab Mean	Sample GT68 Diff from Grand Mean	Sample GT68 CPV	Instr Code
49Z7GN		77.16	2.16	1.77	76.39	0.80	0.58	LA
7PZXDA		75.01	0.01	0.01	75.63	0.04	0.03	PP
A93RRK		75.17	0.17	0.14	75.61	0.02	0.02	LA
AGWWKL		75.33	0.33	0.27	75.04	-0.55	-0.40	LA
B3TX99		72.70	-2.30	-1.88	74.68	-0.91	-0.66	LF
G9ZDKD		75.57	0.57	0.47	77.31	1.72	1.26	VM
HMVAZG		76.11	1.11	0.91	78.50	2.91	2.12	TH
LDVVKY		75.34	0.34	0.28	75.29	-0.30	-0.22	GA
PLXDAY		74.45	-0.55	-0.45	74.98	-0.61	-0.44	TH
PWFV4R		74.94	-0.06	-0.05	74.98	-0.61	-0.44	LB
QCMCNY		72.70	-2.30	-1.88	72.27	-3.32	-2.42	PP
RMKP8V		75.14	0.14	0.12	76.34	0.75	0.55	GM
TZ77U9		73.16	-1.84	-1.50	74.23	-1.36	-0.99	PP
U38PCZ		74.85	-0.15	-0.12	77.21	1.62	1.18	TH
VA8BVM		75.37	0.37	0.31	75.42	-0.17	-0.12	LA
VP3NC4		76.68	1.68	1.38	75.56	-0.03	-0.02	TH
XXK7KT		75.25	0.25	0.21	75.55	-0.04	-0.03	XX

Summary Statistics	Sample GT67	Sample GT68
Grand Means	75.00 Gloss Units	75.59 Gloss Units
Stnd Dev Btwn Labs	1.22 Gloss Units	1.37 Gloss Units

Statistics based on 17 of 17 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	VM	Valmet PaperLab (was Kajaani/Robotest)
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

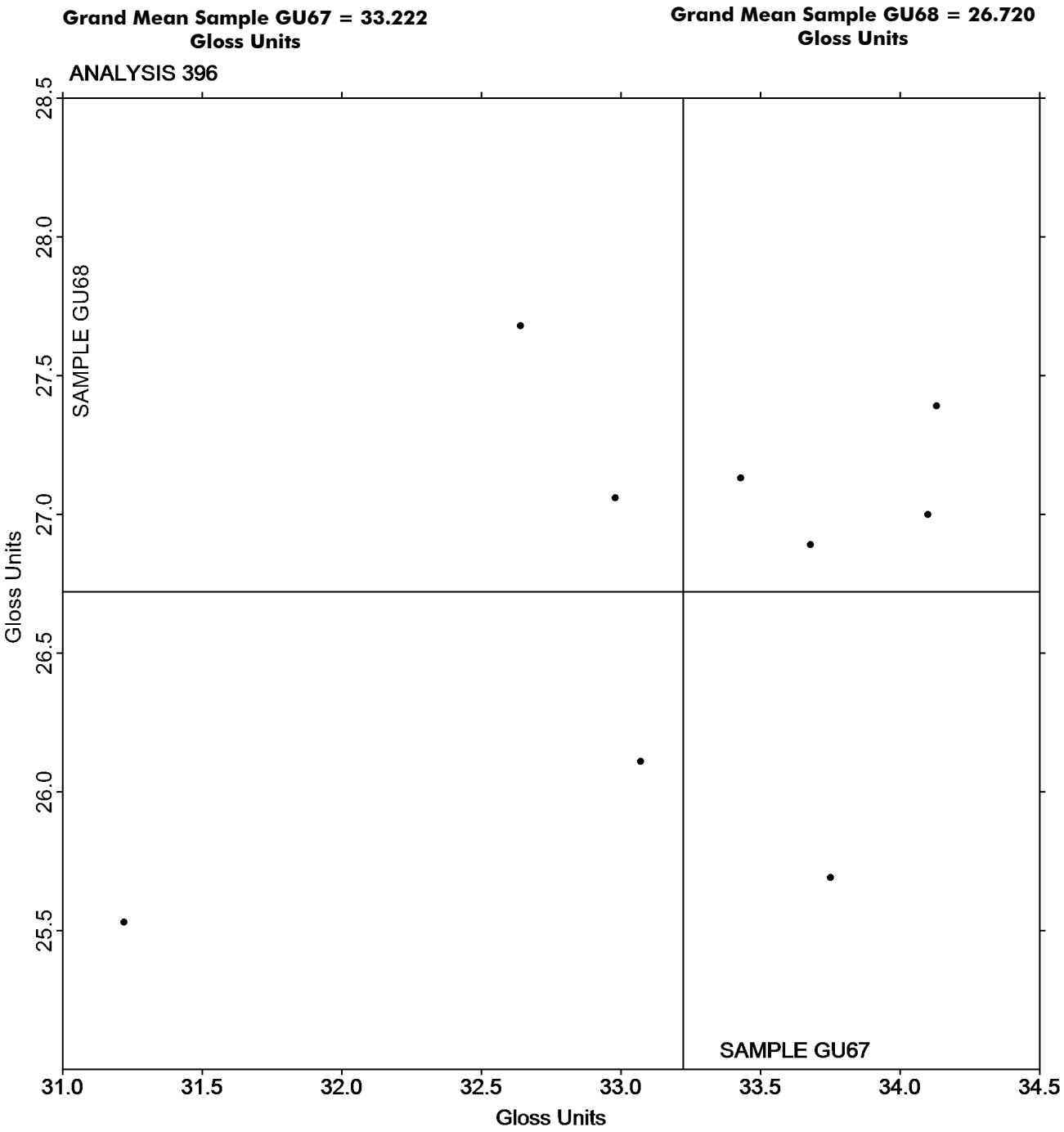
WebCode	Data Flag	Sample GU67 Lab Mean	Sample GU67 Diff from Grand Mean	Sample GU67 CPV	Sample GU68 Lab Mean	Sample GU68 Diff from Grand Mean	Sample GU68 CPV	Instr Code
24H2RH		33.75	0.53	0.58	25.69	-1.03	-1.36	TH
A93RRK		31.22	-2.00	-2.21	25.53	-1.19	-1.57	LA
BDV9MB		32.64	-0.58	-0.64	27.68	0.96	1.26	PP
PWFV4R		33.07	-0.15	-0.17	26.11	-0.61	-0.80	LA
RHBE9A		33.43	0.21	0.23	27.13	0.41	0.54	GS
T493J3		34.10	0.88	0.97	27.00	0.28	0.37	TH
TZ77U9		33.68	0.46	0.51	26.89	0.17	0.22	PP
YL4NJA		32.98	-0.24	-0.27	27.06	0.34	0.45	ZT
ZRQX4R		34.13	0.91	1.00	27.39	0.67	0.88	PP

Summary Statistics	Sample GU67	Sample GU68
Grand Means	33.22 Gloss Units	26.72 Gloss Units
Stnd Dev Btwn Labs	0.91 Gloss Units	0.76 Gloss Units

Statistics based on 9 of 9 reporting participants.

Key to Instrument Codes Reported by Participants

GS	BYK-Gardner Glossgard II	LA	L & W Gloss - Autoline 300
PP	Technidyne Profile/Plus	TH	Technidyne T480A
ZT	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 GW67 Lab Mean	Sample GW67 Diff from Grand Mean	Sample GW67 CPV	Sample GW68 Lab Mean	Sample GW68 Diff from Grand Mean	Sample GW68 CPV	Instr Code
24H2RH		89.16	0.06	0.13	104.0	0.6	0.94	ZZ
679E3W		89.33	0.23	0.52	103.5	0.1	0.09	ZZ
7MUDNN		88.38	-0.72	-1.64	103.8	0.4	0.60	ZZ
EVH2XJ		88.93	-0.17	-0.39	103.0	-0.5	-0.75	ZZ
GA9PZT		88.95	-0.15	-0.34	102.4	-1.0	-1.66	ZZ
HFG928		88.67	-0.43	-0.98	103.1	-0.4	-0.61	ZZ
HGQHPX		89.45	0.35	0.79	104.0	0.5	0.82	ZZ
HKQJX8		89.19	0.09	0.20	103.3	-0.2	-0.34	ZZ
J3KL7V		89.71	0.60	1.37	103.1	-0.4	-0.66	ZZ
JFBH79		88.38	-0.72	-1.64	102.7	-0.8	-1.32	ZZ
K67QGE		89.13	0.02	0.05	103.8	0.3	0.56	ZZ
L9LH32		89.67	0.56	1.28	104.0	0.6	0.95	ZZ
M3VH97		89.42	0.32	0.72	104.4	1.0	1.56	ZZ
NAQYX3		89.26	0.16	0.36	104.5	1.0	1.64	ZZ
PWFV4R		89.56	0.46	1.04	104.2	0.7	1.17	ZZ
QVEKLU		90.21	1.11	2.52	104.0	0.5	0.86	ZZ
QZXFNL		88.58	-0.52	-1.19	103.3	-0.2	-0.34	ZZ
RAYA4W		89.11	0.01	0.02	104.1	0.6	1.02	ZZ
T493J3		89.29	0.18	0.42	103.9	0.5	0.75	ZZ
TZ77U9		88.65	-0.45	-1.03	103.2	-0.3	-0.43	ZZ
UV6HQ7		88.92	-0.18	-0.41	102.6	-0.9	-1.49	ZZ
V2P6WV		89.05	-0.06	-0.13	102.9	-0.6	-0.98	ZZ
WZDP3U		88.50	-0.60	-1.36	102.8	-0.6	-1.05	ZZ
YCW9D2		88.95	-0.16	-0.35	103.4	-0.1	-0.13	ZZ
YL4NJA		89.13	0.03	0.07	102.7	-0.7	-1.20	ZZ

Summary Statistics	Sample GW67	Sample GW68
Grand Means	89.10 g/sq m	103.47 g/sq m
Stnd Dev Btwn Labs	0.44 g/sq m	0.61 g/sq m

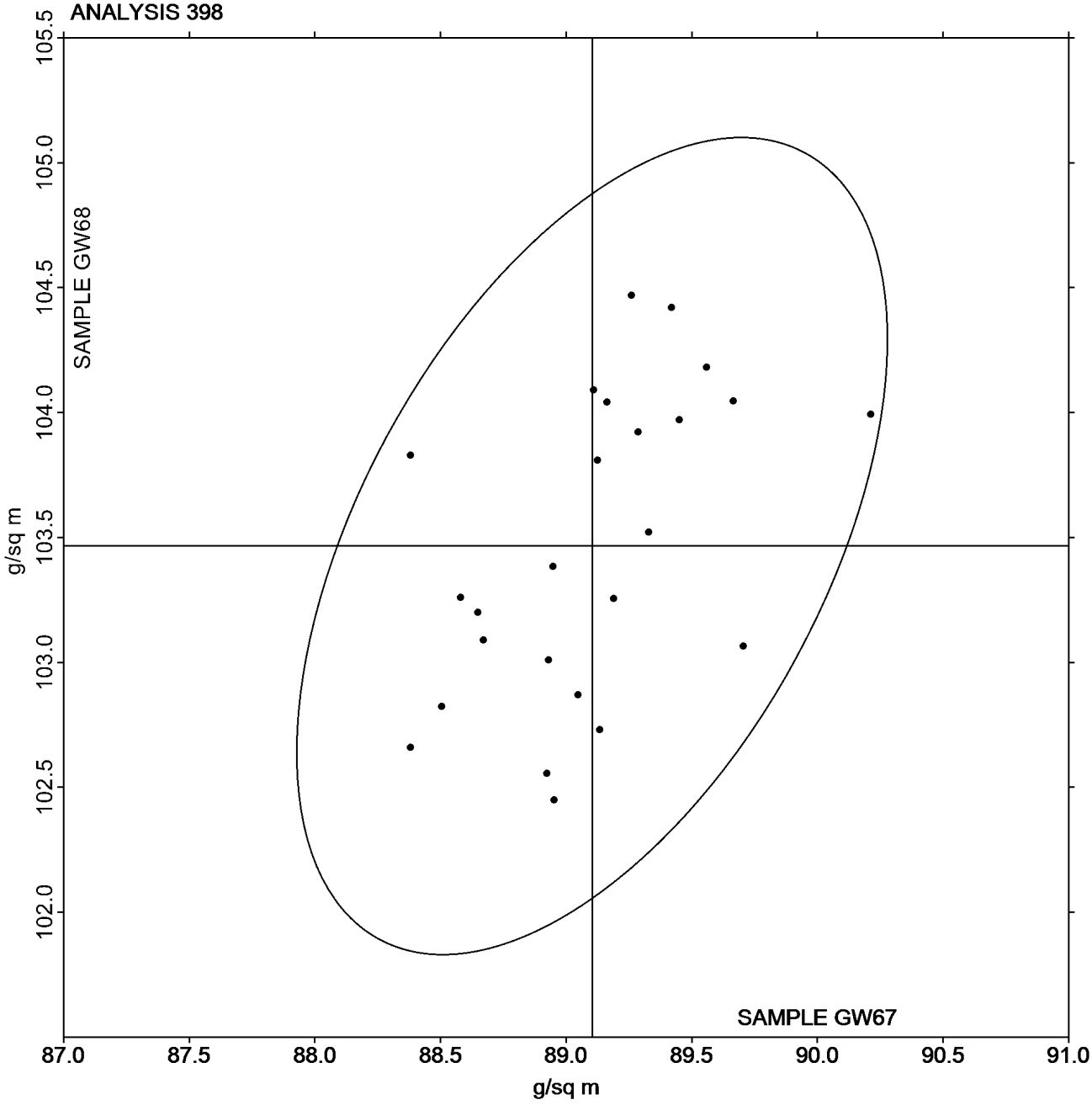
Statistics based on 25 of 25 reporting participants.

Key to Instrument Codes Reported by Participants

ZZ Instruments No Longer Tracked

Grand Mean Sample GW67 = 89.103 g/sq m

Grand Mean Sample GW68 = 103.47 g/sq m



Paper & Paperboard Interlaboratory Testing Program

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

WebCode	Data Flag	Sample GX67 Lab Mean	Sample GX67 Diff from Grand Mean	Sample GX67 CPV	Sample GX68 Lab Mean	Sample GX68 Diff from Grand Mean	Sample GX68 CPV	Instr Code
6C46PV		21.04	8.14	2.12	18.06	5.57	2.13	XX
7JHCNC		14.68	1.78	0.47	13.15	0.66	0.25	HE
7MUDNN		14.44	1.54	0.40	12.32	-0.17	-0.06	HE
98RMKM		9.99	-2.91	-0.76	10.48	-2.01	-0.77	HE
9G3P7N		10.34	-2.56	-0.67	11.06	-1.43	-0.55	HE
ARCQWE		10.10	-2.80	-0.73	8.10	-4.39	-1.68	XX
BDV9MB		19.78	6.88	1.80	15.97	3.48	1.33	HE
CJDYMB	*	20.88	7.98	2.08	19.80	7.31	2.80	HE
DG3JN4		11.39	-1.51	-0.39	9.56	-2.93	-1.12	HE
DMA6G8		12.30	-0.60	-0.16	10.88	-1.61	-0.62	HE
EFMLQC		14.93	2.03	0.53	11.16	-1.33	-0.51	HE
G2EK8R		12.98	0.08	0.02	12.77	0.28	0.11	HE
HFG928	X	43.20	30.30	7.90	43.80	31.31	11.98	XX
HGMVA6		11.49	-1.41	-0.37	13.08	0.59	0.23	HE
L22GMN		15.07	2.17	0.57	12.00	-0.49	-0.19	HE
MQ6NXX		11.67	-1.23	-0.32	11.83	-0.66	-0.25	HE
MQGPD6		12.57	-0.33	-0.09	12.57	0.08	0.03	HE
NAQYX3		15.00	2.10	0.55	14.30	1.81	0.69	HE
RMKP8V		7.10	-5.80	-1.51	11.90	-0.59	-0.23	HE
RWQGQX		13.28	0.38	0.10	13.24	0.75	0.29	HE
TZ77U9		5.28	-7.62	-1.99	8.33	-4.16	-1.59	HE
VA8BVM		7.34	-5.56	-1.45	11.47	-1.02	-0.39	HE
VCNVG3		12.34	-0.56	-0.15	10.86	-1.63	-0.62	HE
X8VDFW		12.36	-0.54	-0.14	12.44	-0.05	-0.02	HE
ZCUULM		11.59	-1.31	-0.34	12.92	0.43	0.16	HE
ZVQ4PP		14.47	1.57	0.41	13.97	1.48	0.57	HE

Summary Statistics	Sample GX67	Sample GX68
Grand Means	12.90 Seconds	12.49 Seconds
Stnd Dev Btwn Labs	3.83 Seconds	2.61 Seconds

Statistics based on 25 of 26 reporting participants.

Comments on Assigned Data Flags for Test #399

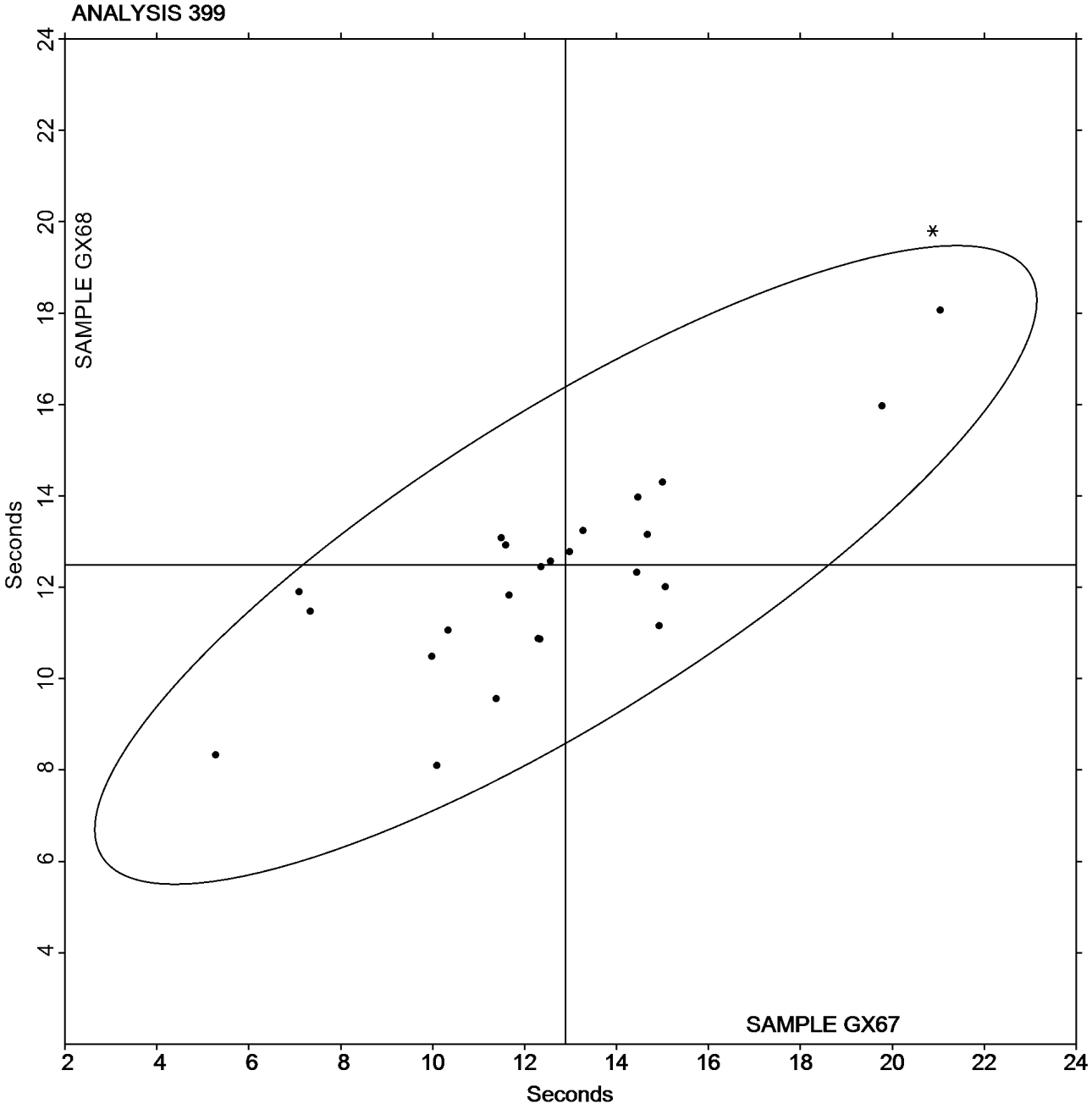
HFG928 (X) - Extreme Data.

Key to Instrument Codes Reported by Participants

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

Grand Mean Sample GX67 = 12.896 Seconds

Grand Mean Sample GX68 = 12.489 Seconds



-End of Report-

