Collaborative Testing Services, Inc.

Paper & Paperboard Testing Program

Summary Report #3072 G - August 2020

Analysis	Analysis Name
350	Color & Color Difference - Near White Papers - C/2deg obs
351	Color & Color Difference - Near White Papers - D65/10deg obs
360	Thickness (Caliper), Printing papers
361	Thickness (Caliper), Packaging papers
364	Coefficient of Static Friction - Horizontal Plane Method - Printing Papers
365	Coefficient of Kinetic Friction - Horizontal Plane Method - Printing Papers
370	Air Resistance - Gurley Oil Type
372	Porosity - Sheffield Type - Sheffield Units for 3/4 inch Diameter Orifice
376	Roughness - Print Surf Method - 0.5 to 4.0 Microns
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
391	Directional Brightness of Fluorescent Samples
392	Diffuse Brightness
394	Fluorescent Component of Directional Brightness
395	Specular Gloss at 75 Degrees - High Range
396	Specular Gloss at 75 Degrees - Low Range
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.

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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
3QAP3V		GA81	88.20	-0.68	2.56	5.46	0.05	-0.15	5.46	TC
		GA82	93.66	-0.63	2.41					
7MJGBX	X	GA81	87.28	0.19	1.97	5.46	-0.61	-0.04	5.49	TS
		GA82	92.74	-0.42	1.94					
8CDYCY	X	GA81	88.63	-0.58	5.44	2.72	0.27	-1.02	2.92	TC
		GA82	91.35	-0.31	4.42					
8P3VEX	X	GA81	87.55	-0.26	2.14	4.93	0.35	0.25	4.95	TS
		GA82	92.48	0.08	2.39					
AU8EPV	X	GA81	88.45	0.19	2.24	5.04	-0.06	-0.13	5.04	TS
		GA82	93.49	0.13	2.11					
B4R6PT		GA81	88.08	-0.36	2.46	5.66	0.07	0.03	5.66	LA
		GA82	93.74	-0.29	2.49					
DKD8KM		GA81	90.57	-0.74	2.54	4.51	0.23	-0.26	4.52	EH
		GA82	95.08	-0.51	2.28					
EKJAKQ		GA81	89.02	-1.11	2.53	5.23	0.38	-0.45	5.27	HE
		GA82	94.26	-0.73	2.08					
J7BPAN		GA81	90.58	-0.84	2.60	4.44	0.17	-0.13	4.45	LS
		GA82	95.03	-0.67	2.47					
JXGJGM		GA81	90.54	-0.78	2.62	4.51	0.17	-0.16	4.52	TC
		GA82	95.05	-0.61	2.46					
JZLAGB	X	GA81	87.55	0.17	2.20	5.13	-0.16	-0.12	5.14	TS
		GA82	92.69	0.01	2.09					
PT3YVA	X	GA81	76.21	-0.64	0.12	5.82	0.33	-0.04	5.83	XX
		GA82	82.03	-0.31	0.08					
PXD6BF		GA81	88.72	-0.63	2.67	5.21	-0.08	-0.33	5.22	HE
		GA82	93.93	-0.71	2.34					
Q7MUNE		GA81	89.12	-0.45	2.45	5.64	-0.16	0.05	5.65	HE
		GA82	94.76	-0.61	2.51					
RHE3L8		GA81	87.81	-0.95	2.32	5.25	0.27	-0.35	5.27	XX
		GA82	93.06	-0.67	1.97					
UKC3YA		GA81	88.75	-0.57	2.35	5.90	0.10	-0.08	5.90	XS
		GA82	94.65	-0.47	2.26					

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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
VK6FV2	X	GA81	87.16	0.29	2.27	5.10	-0.16	-0.04	5.10	TS
		GA82	92.26	0.13	2.23					
WZX8F2		GA81	89.97	-1.52	1.81	2.51	0.38	-0.59	2.61 X	HG
		GA82	92.48	-1.14	1.22					

Summary Statistics

Grand Means							
GA81	88.706	-0.757	2.358	4.938	0.143	-0.220	4.955
GA82	93.570	-0.590	2.203				
Stnd Dev Btwn Labs							
GA81	1.141	0.303	0.244	0.946	0.171	0.198	0.924
GA82	1.134	0.227	0.321				

Statistics based on 11 of 18 reporting participants

Comments on Assigned Data Flags for Test #350

JZLAGB (X) - High "a" values for both samples. Inconsistent within replicate readings of both "a".

PT3YVA (X) - Extreme data for both "L" and "b" values.

VK6FV2 (X) - High "a" values for both samples. Inconsistent within replicate readings of both "a".

8P3VEX (X) - High "a" values for GA82. Inconsistent within replicate readings of both "a". High delta b.

AU8EPV (X) - High "a" values for both samples. Inconsistent within replicate readings of both "a".

7MJGBX (X) - High "a" values for GA81. Inconsistent within replicate readings of both "a". Low delta a.

8CDYCY (X) - Extreme data for both "b" values. Low delta "L" and "b".

8P3VEX - 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.

VK6FV2 - 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	XS	X-Rite 938 Spectrodensitometer
XX	Instrument make/model not specified by lab		

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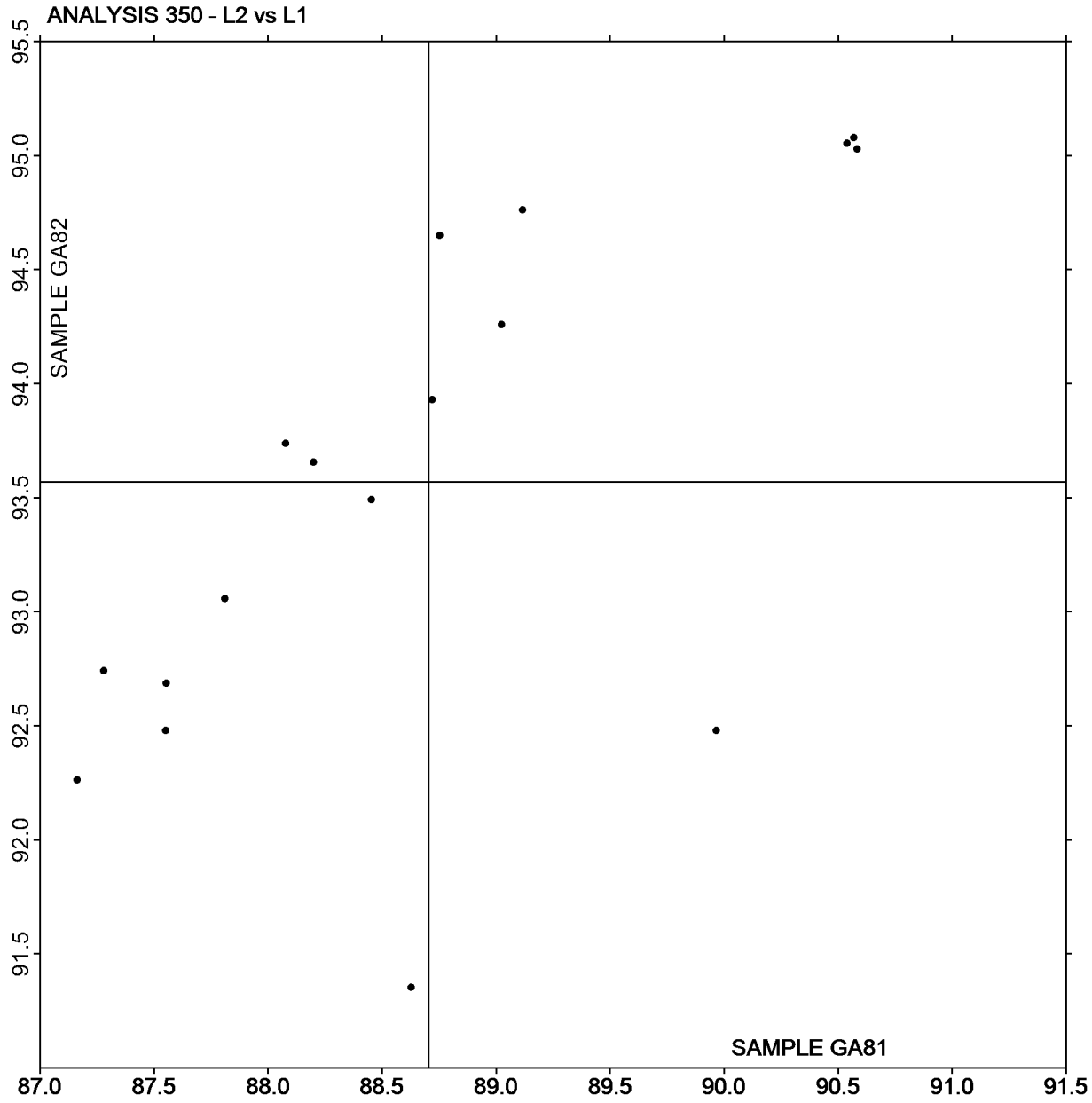
Plot of L values GA82 vs L values GA81



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

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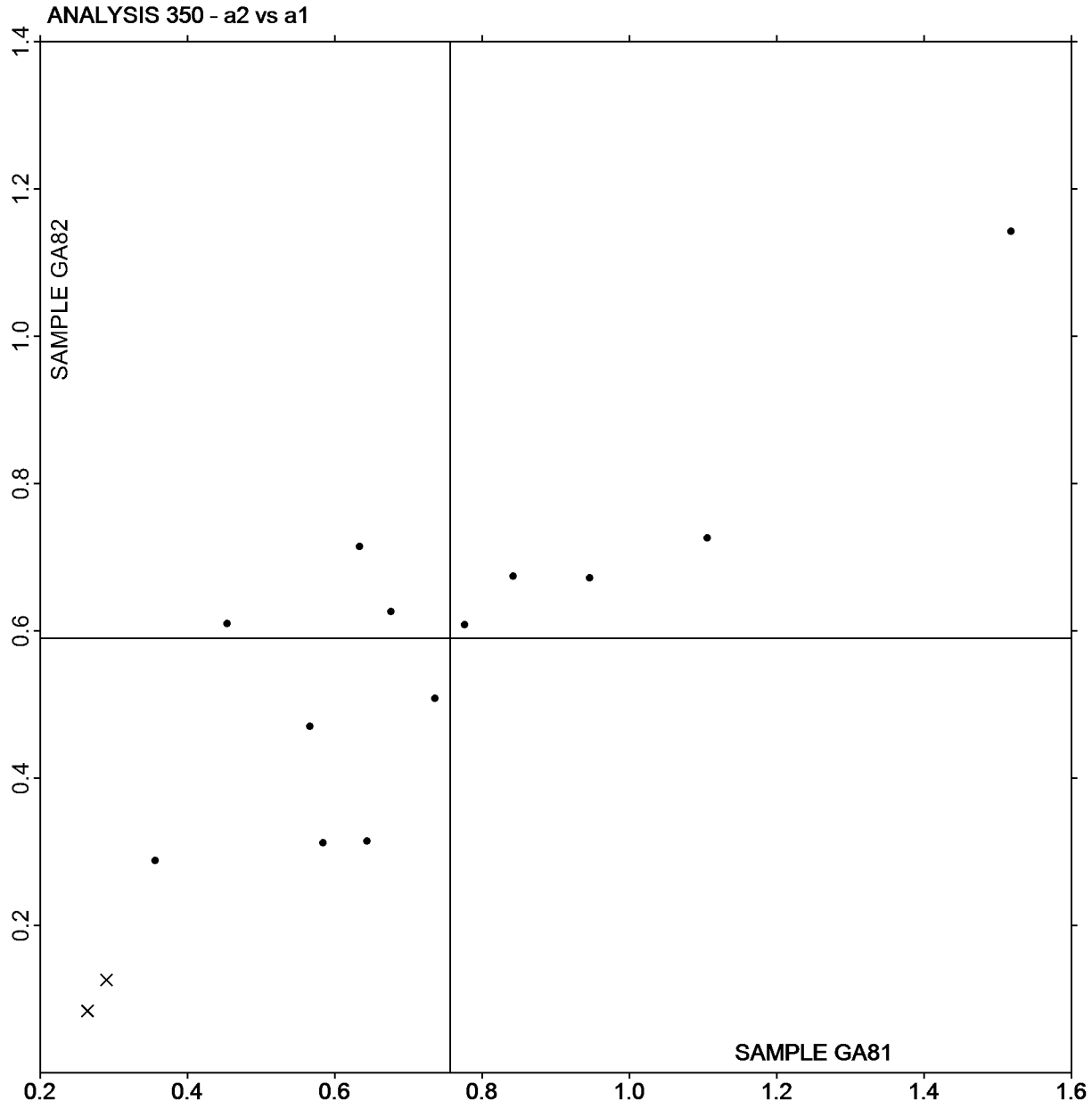
Plot of a values GA82 vs a values GA81



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

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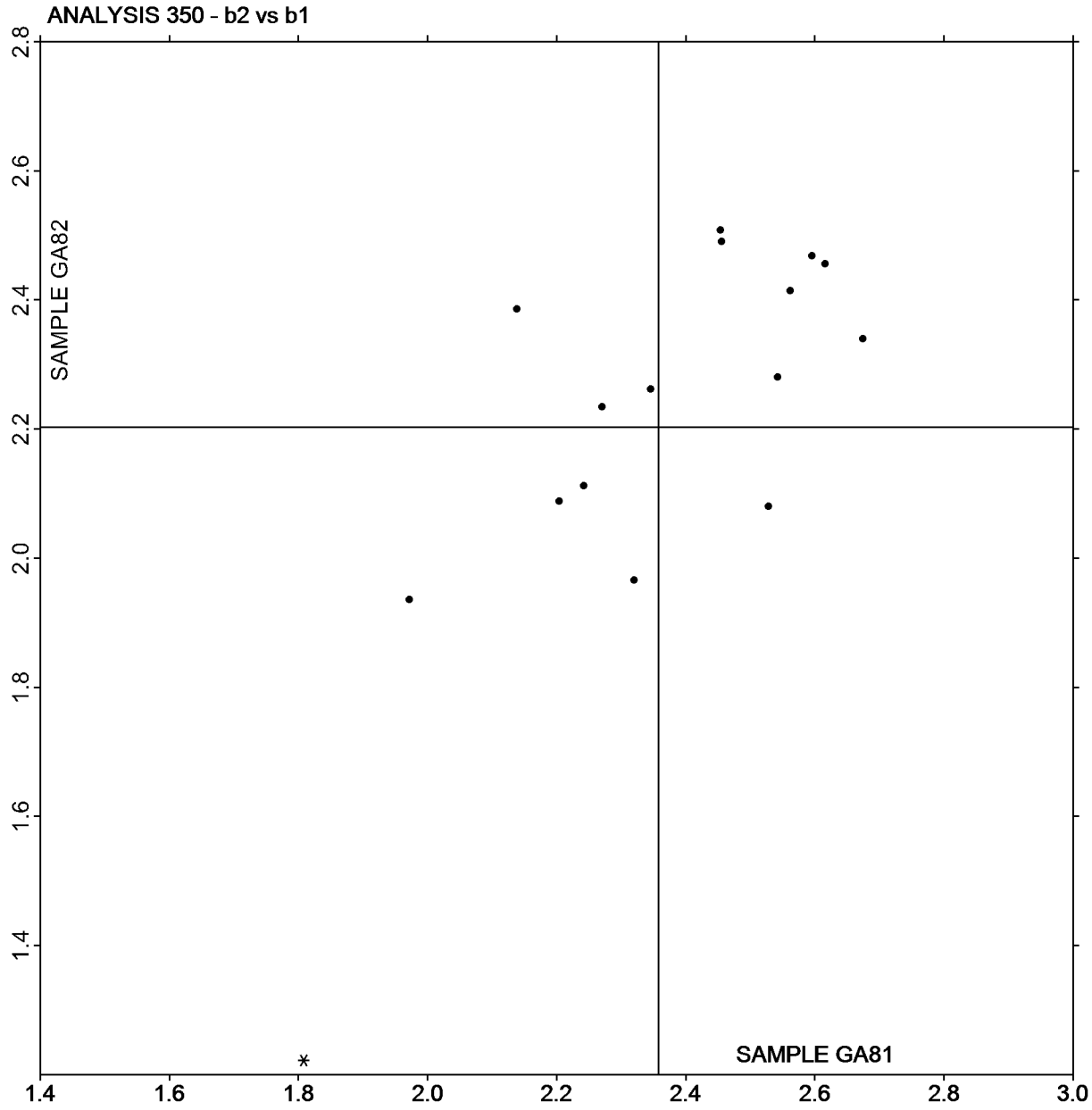
Plot of b values GA82 vs b values GA81



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

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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
4JQETZ		GA81	90.72	-1.16	2.79	4.53	0.59	-0.12	4.57	HT
		GA82	95.25	-0.57	2.67					
6TQNDV		GA81	92.52	-0.96	1.39	4.34	0.53	-0.47	4.40	XP
		GA82	96.86	-0.42	0.93					
92DTUL		GA81	88.17	-1.45	2.87	5.62	0.67	-0.35	5.67	TC
		GA82	93.80	-0.77	2.53					
AALJWN		GA81	90.58	-1.22	2.83	4.65	0.63	-0.16	4.70	EF
		GA82	95.23	-0.59	2.67					
BZRUUT		GA81	90.41	-0.77	2.56	4.52	0.11	0.03	4.52	EH
		GA82	94.93	-0.66	2.59					
C23TQM		GA81	90.68	-1.11	3.22	4.41	0.50	-0.47	4.47	NG
		GA82	95.09	-0.61	2.75					
DKD8KM		GA81	90.55	-1.17	2.90	4.47	0.62	-0.43	4.53	XX
		GA82	95.02	-0.55	2.47					
GAZEJH	X	GA81	81.12	-0.69	0.18	4.69	0.35	-0.17	4.71	NG
		GA82	85.81	-0.34	0.02					
JGRGWD		GA81	88.17	-0.98	2.42	5.61	0.50	-0.20	5.63	XB
		GA82	93.78	-0.48	2.23					
Q3MPU7		GA81	90.37	-1.18	2.82	4.54	0.54	-0.21	4.58	EH
		GA82	94.91	-0.64	2.61					
QZWJEF		GA81	90.53	-1.26	2.77	4.53	0.60	-0.09	4.57	HT
		GA82	95.06	-0.66	2.68					
R67WWE		GA81	90.52	-1.17	2.72	4.58	0.60	-0.14	4.62	LS
		GA82	95.09	-0.57	2.58					
TLBQ3E		GA81	88.81	-0.87	2.43	5.68	0.34	-0.10	5.70	HE
		GA82	94.49	-0.52	2.33					
WKNJ32		GA81	90.49	-1.20	2.62	4.55	0.56	-0.25	4.59	XC
		GA82	95.05	-0.64	2.36					
WXPAN7		GA81	90.60	-1.28	2.85	4.37	0.60	-0.36	4.43	TC
		GA82	94.97	-0.68	2.49					

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Summary Statistics

Grand Means							
GA81	90.222	-1.097	2.657	4.744	0.528	-0.237	4.784
GA82	94.965	-0.580	2.421				
Stnd Dev Btwn Labs							
GA81	1.138	0.206	0.417	0.492	0.145	0.155	0.485
GA82	0.724	0.107	0.455				

Statistics based on 14 of 15 reporting participants

Comments on Assigned Data Flags for Test #351

GAZEJH (X) - Extreme data for both "L" values. Very low values for both "b" values.

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
XX	Instrument make/model not specified by lab		

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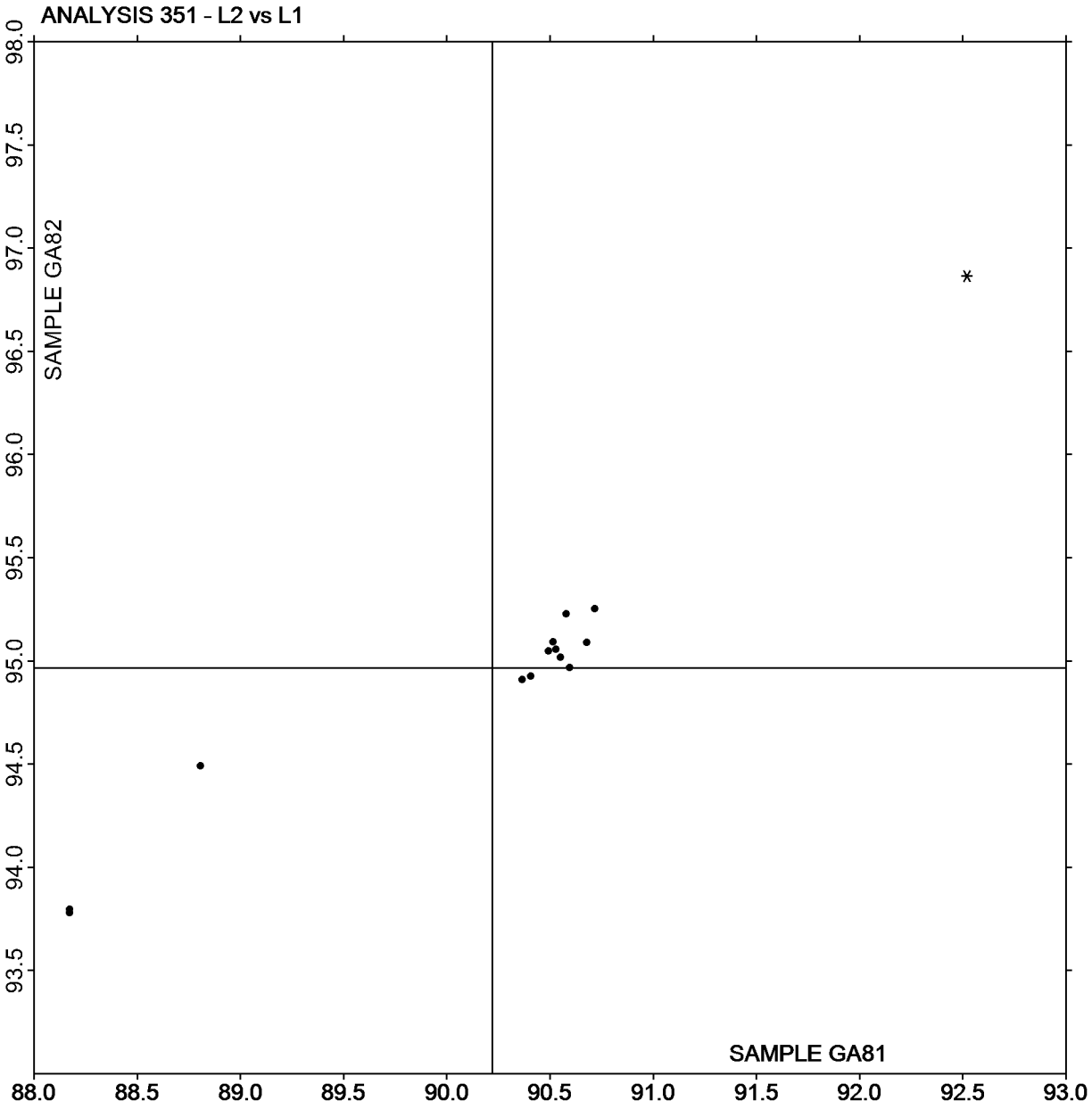
Plot of L values GA82 vs L values GA81



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

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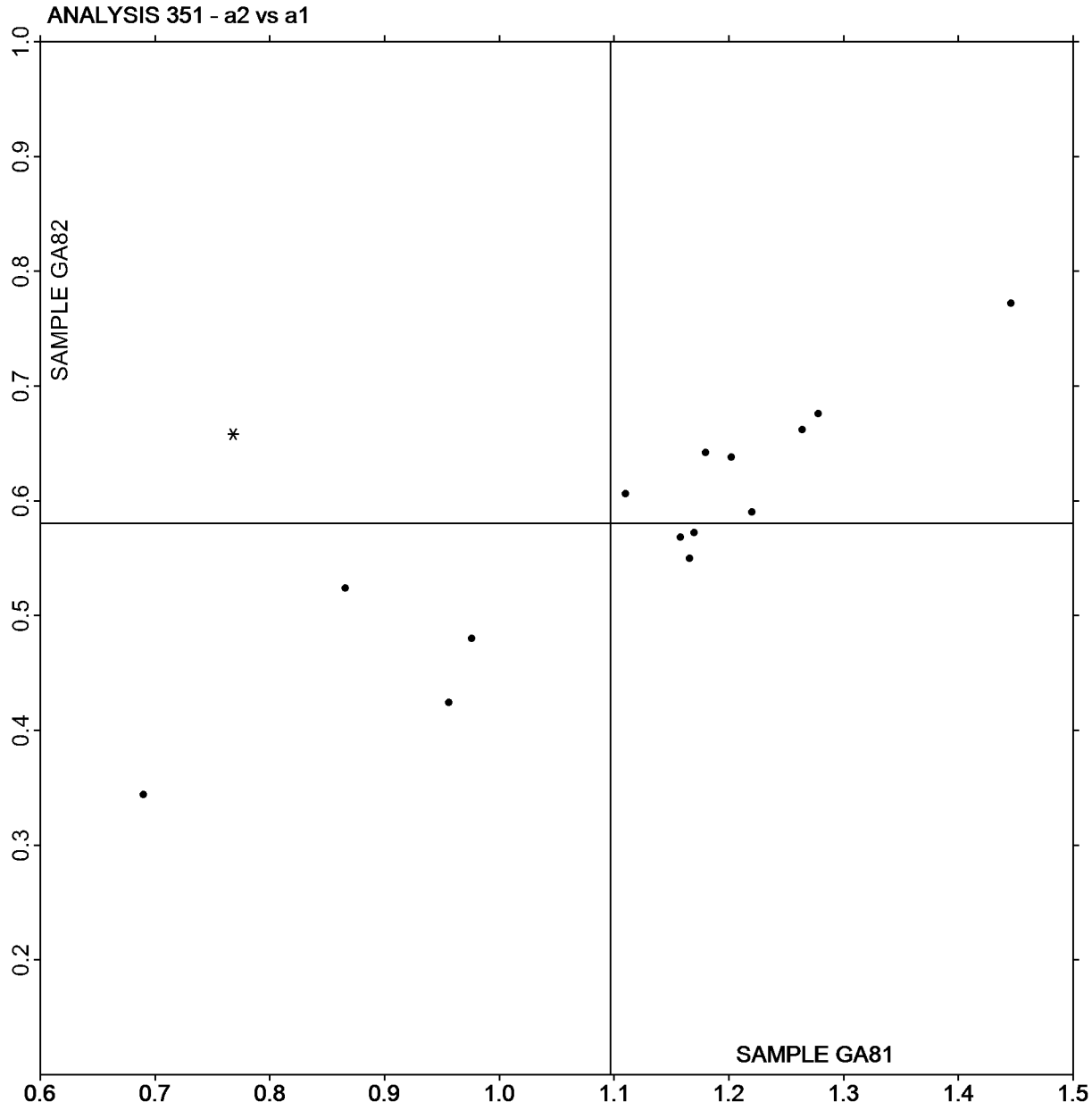
Plot of a values GA82 vs a values GA81



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

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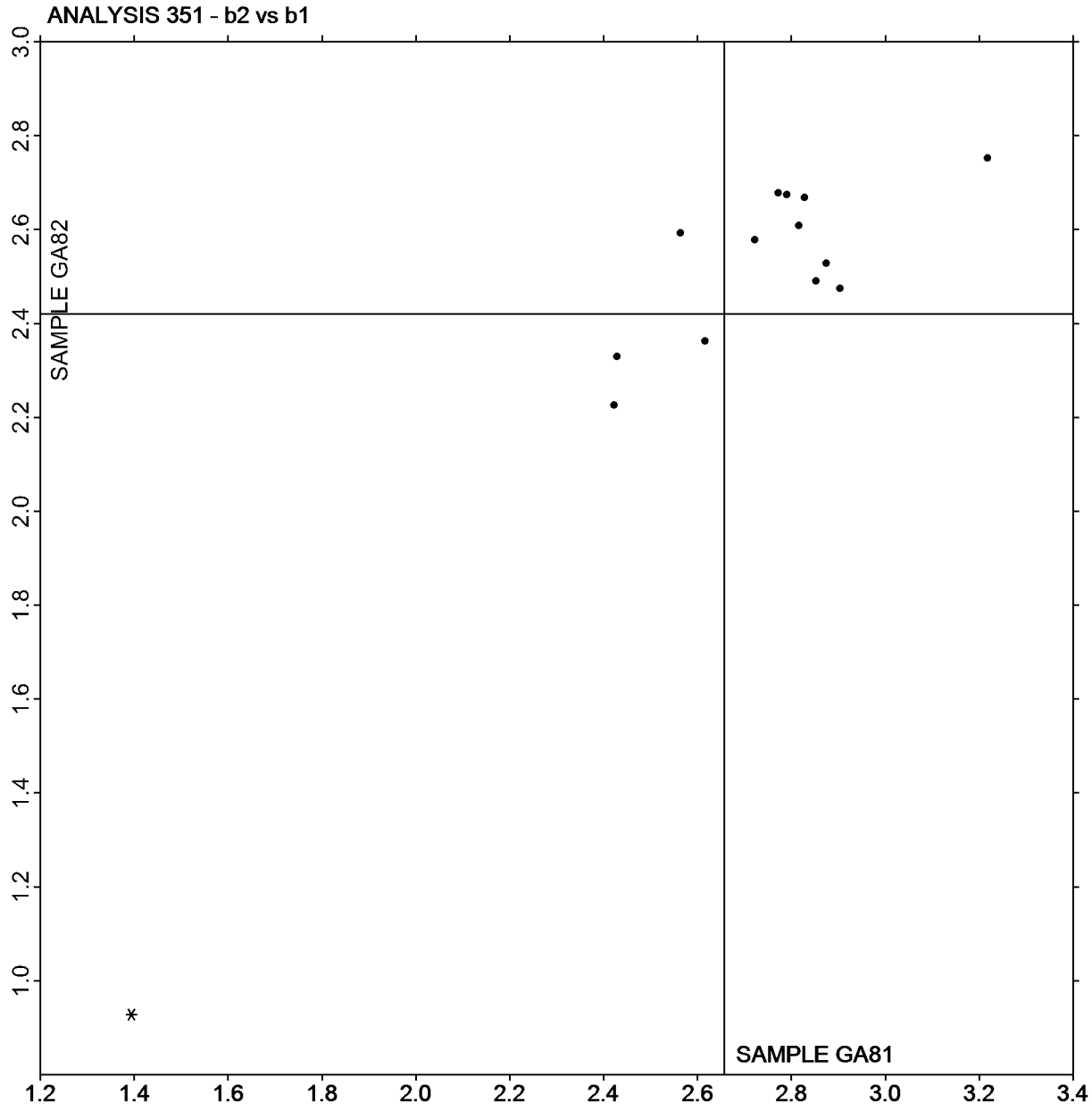
Plot of b values GA82 vs b values GA81



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

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Paper & Paperboard Interlaboratory Testing Program

Analysis 360

Thickness (Caliper), Printing papers

TAPPI Official Test Method T411

WebCode	Data Flag	Sample GV81 Lab Mean	Sample GV81 Diff from Grand Mean	Sample GV81 CPV	Sample GV82 Lab Mean	Sample GV82 Diff from Grand Mean	Sample GV82 CPV	Instr Code
3TL6WV	*	5.210	0.238	2.93	5.127	0.155	1.90	LW
47GXLV		5.020	0.047	0.58	5.020	0.048	0.59	TM
4JQETZ		4.960	-0.012	-0.15	4.971	-0.001	-0.01	EM
6C4BY3		5.060	0.088	1.08	5.122	0.150	1.84	TM
6ETGET		5.001	0.029	0.35	5.035	0.063	0.77	PP
6TQNDV		4.895	-0.077	-0.95	4.850	-0.122	-1.49	TM
6VEZCZ		5.060	0.088	1.08	5.013	0.041	0.50	LW
6X67RQ		4.862	-0.110	-1.36	4.888	-0.084	-1.03	PP
7MJGBX	*	4.985	0.013	0.16	4.843	-0.129	-1.58	TM
7NAMQN		5.052	0.080	0.98	5.014	0.042	0.52	EM
8L3KHX		4.990	0.018	0.22	4.950	-0.022	-0.27	PP
8P3VEX	X	4.639	-0.334	-4.11	4.686	-0.286	-3.50	TM
92DTUL	*	4.843	-0.129	-1.59	4.977	0.005	0.06	PP
9K28BV		5.031	0.059	0.73	5.033	0.061	0.74	LW
ADMNQW		5.050	0.078	0.96	5.068	0.096	1.18	LW
AU8EPV		4.874	-0.098	-1.21	4.940	-0.032	-0.39	LA
B4R6PT		5.031	0.058	0.72	5.006	0.034	0.42	EM
B7GB7J		4.935	-0.038	-0.46	4.907	-0.065	-0.80	PP
BGECHM		4.930	-0.042	-0.52	4.920	-0.052	-0.64	LW
C23TQM		5.040	0.068	0.83	5.085	0.113	1.39	PP
D4PU8V		4.941	-0.031	-0.39	5.020	0.048	0.59	LW
D8KLER		4.993	0.021	0.25	4.986	0.014	0.17	TM
DB36YL	X	4.854	-0.118	-1.46	4.686	-0.286	-3.50	PP
DKD8KM		5.025	0.053	0.65	5.048	0.076	0.93	EM
DPMK3L		5.012	0.040	0.49	4.973	0.001	0.01	LA
EV4KUH		5.022	0.050	0.61	5.019	0.047	0.58	LA
GAZEJH		4.884	-0.088	-1.09	4.924	-0.048	-0.59	EM
J7BPAN		4.997	0.025	0.31	4.944	-0.028	-0.34	LW
JCDXGG		4.984	0.012	0.14	4.893	-0.079	-0.97	TA
JGRGWD		5.013	0.041	0.50	5.055	0.083	1.02	TM
JXGJGM		4.864	-0.108	-1.33	4.807	-0.165	-2.02	LA
K2WB4A		4.904	-0.068	-0.84	4.991	0.019	0.23	EM
KV9Q3F		5.042	0.070	0.86	4.984	0.012	0.15	EM
M2KNKJ		4.961	-0.012	-0.14	4.918	-0.054	-0.66	TM
MNXGJC		4.923	-0.049	-0.61	4.963	-0.009	-0.11	TM
NH8LYJ		4.887	-0.085	-1.05	4.972	0.000	0.00	PP
NQZUKA		5.007	0.035	0.43	5.003	0.031	0.38	LA
NVR23H	X	5.230	0.258	3.17	5.029	0.057	0.70	LW
PFRLD9		4.979	0.007	0.08	4.955	-0.017	-0.21	TA
Q3MPU7		5.044	0.072	0.88	5.068	0.096	1.18	EM
QG9XVE		5.030	0.058	0.71	5.006	0.034	0.42	LW

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Paper & Paperboard Interlaboratory Testing Program

Analysis 360

Thickness (Caliper), Printing papers

TAPPI Official Test Method T411

WebCode	Data Flag	Sample GV81 Lab Mean	Sample GV81 Diff from Grand Mean	Sample GV81 CPV	Sample GV82 Lab Mean	Sample GV82 Diff from Grand Mean	Sample GV82 CPV	Instr Code
QZWJEF		4.941	-0.031	-0.39	4.892	-0.080	-0.98	EM
RHE3L8		5.050	0.078	0.95	5.030	0.058	0.71	XX
TLBQ3E		4.884	-0.088	-1.09	4.871	-0.101	-1.24	PP
UFKZR4		4.926	-0.046	-0.57	4.948	-0.023	-0.29	TM
UKC3YA		4.820	-0.152	-1.88	4.880	-0.092	-1.13	TM
VK6FV2		4.951	-0.021	-0.26	4.991	0.019	0.23	EM
WHYCMB		4.860	-0.112	-1.38	4.780	-0.192	-2.35	TM
WKNJ32		5.055	0.083	1.02	5.016	0.044	0.54	LW
WXPAN7		5.016	0.043	0.53	5.071	0.099	1.21	PP
XRH4M9	X	14.895	9.923	122.14	15.102	10.131	124.07	LW
XU9A3Y		4.890	-0.082	-1.01	4.940	-0.032	-0.39	TA
YECE6X		5.095	0.123	1.51	5.092	0.120	1.47	TM
YKZXP2		4.791	-0.181	-2.23	4.787	-0.185	-2.26	TA

Summary Statistics	Sample GV81	Sample GV82
Grand Means	4.97 mils	4.97 mils
Stnd Dev Btwn Labs	0.08 mils	0.08 mils

Statistics based on 50 of 54 reporting participants.

Comments on Assigned Data Flags for Test #360

8P3VEX (X) - Data for both samples are low. Possible Systematic Error.

XRH4M9 (X) - Extreme Data.

NVR23H (X) - Data for sample GV81 are high.

DB36YL (X) - Data for sample GV82 are low.

Key to Instrument Codes Reported by Participants

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

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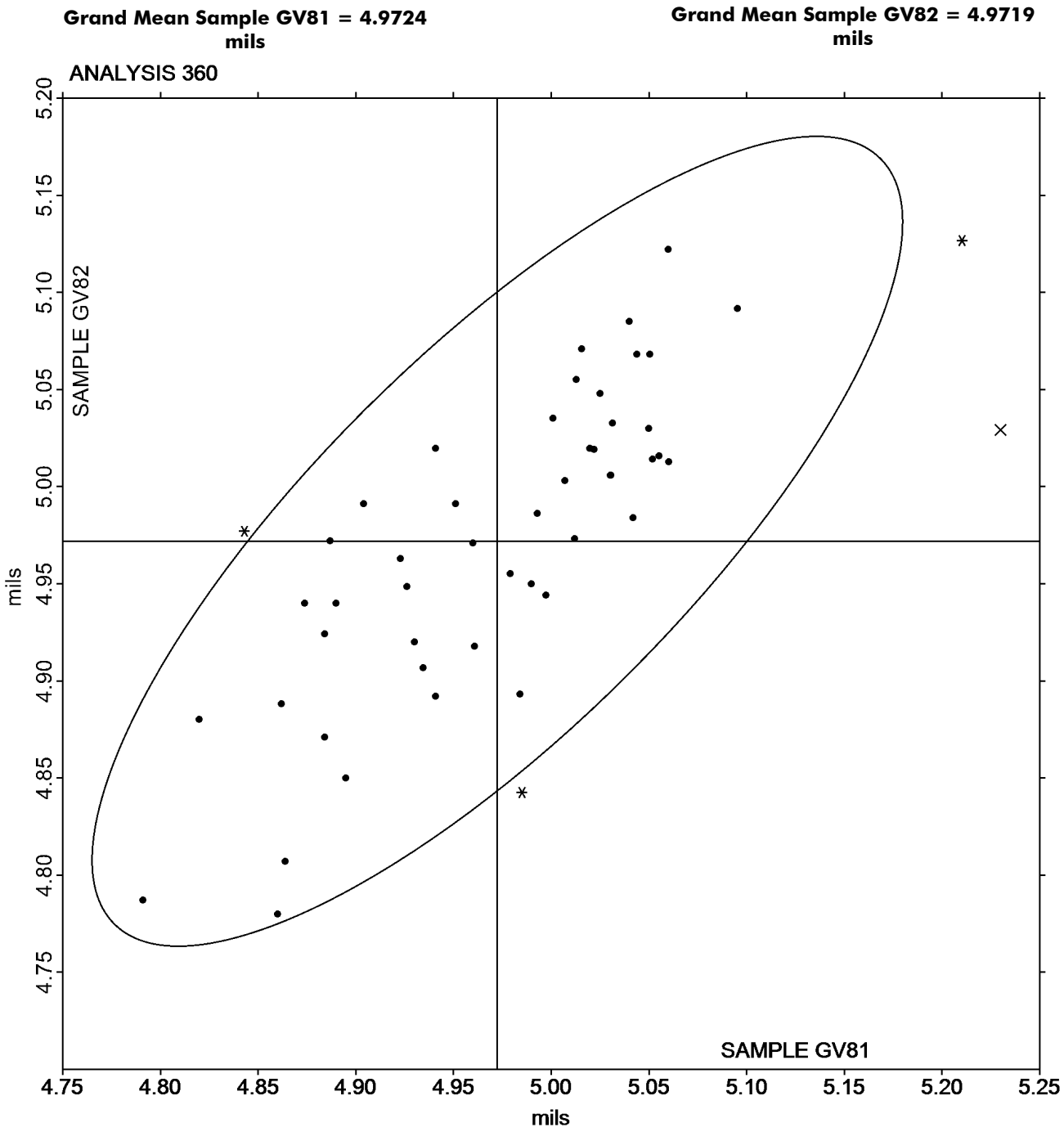

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Paper & Paperboard Interlaboratory Testing Program

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

WebCode	Data Flag	Sample GY81 Lab Mean	Sample GY81 Diff from Grand Mean	Sample GY81 CPV	Sample GY82 Lab Mean	Sample GY82 Diff from Grand Mean	Sample GY82 CPV	Instr Code
34KVH4		9.335	-0.277	-2.00	13.96	-0.16	-1.45	TA
4BVG2R		9.532	-0.081	-0.58	14.06	-0.05	-0.47	LA
6QJDGR		9.717	0.105	0.75	14.22	0.11	0.95	TM
76XXDQ		9.558	-0.054	-0.39	14.09	-0.02	-0.19	LW
839RXZ		9.692	0.080	0.58	14.11	-0.01	-0.09	TM
8UWXDQ		9.942	0.330	2.38	14.40	0.28	2.57	LW
B4R6PT		9.622	0.010	0.07	14.16	0.05	0.41	EM
B7GB7J		9.555	-0.057	-0.41	14.07	-0.04	-0.40	LW
CC2T3R		9.766	0.154	1.11	14.25	0.13	1.18	PP
DZG2RM		9.550	-0.062	-0.45	13.99	-0.13	-1.13	TM
EKJAKQ		9.689	0.077	0.55	14.11	0.00	-0.02	EM
EV4KUH		9.565	-0.047	-0.34	14.16	0.05	0.44	LA
FJRB7R		9.898	0.286	2.06	14.22	0.11	0.95	LW
NT9U2A		9.629	0.017	0.12	14.03	-0.09	-0.77	LA
PT3YVA	*	9.574	-0.038	-0.27	14.25	0.13	1.19	EM
PXD6BF		9.808	0.196	1.41	14.34	0.22	2.01	EM
Q3MPU7		9.580	-0.032	-0.23	14.15	0.03	0.30	EM
Q7MUNE		9.479	-0.133	-0.96	14.03	-0.09	-0.80	EM
Q8GJR9		9.652	0.040	0.29	14.16	0.04	0.39	LW
QE3FXH		9.658	0.046	0.33	14.11	0.00	-0.03	TM
QG9XVE		9.626	0.014	0.10	14.12	0.01	0.05	LW
QW2PGE		9.500	-0.112	-0.81	14.07	-0.05	-0.45	TA
R67WWE		9.673	0.061	0.44	14.09	-0.02	-0.21	LW
RWWVBE		9.592	-0.020	-0.14	14.05	-0.07	-0.61	LA
UY9E9D		9.308	-0.304	-2.19	13.85	-0.26	-2.38	TM
WHYCMB	X	9.280	-0.332	-2.39	13.64	-0.48	-4.28	TM
WR43MZ		9.579	-0.033	-0.24	14.07	-0.04	-0.40	LW
XFAZN6		9.547	-0.065	-0.47	14.01	-0.10	-0.93	LW
XU9A3Y		9.530	-0.082	-0.59	14.07	-0.05	-0.41	TA
YKZXP2		9.458	-0.154	-1.11	14.07	-0.04	-0.37	TA
YVXX36		9.747	0.135	0.97	14.19	0.08	0.68	TM

Summary Statistics	Sample GY81	Sample GY82
Grand Means	9.61 mils	14.12 mils
Stnd Dev Btwn Labs	0.14 mils	0.11 mils

Statistics based on 30 of 31 reporting participants.

Comments on Assigned Data Flags for Test #361

WHYCMB (X) - Data for sample GY82 are low.

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Key to Instrument Codes Reported by Participants

EM	Emveco	LA	L & W Autoline
LW	L & W	PP	Technidyne Profile/Plus
TA	Thwing-Albert	TM	TMI

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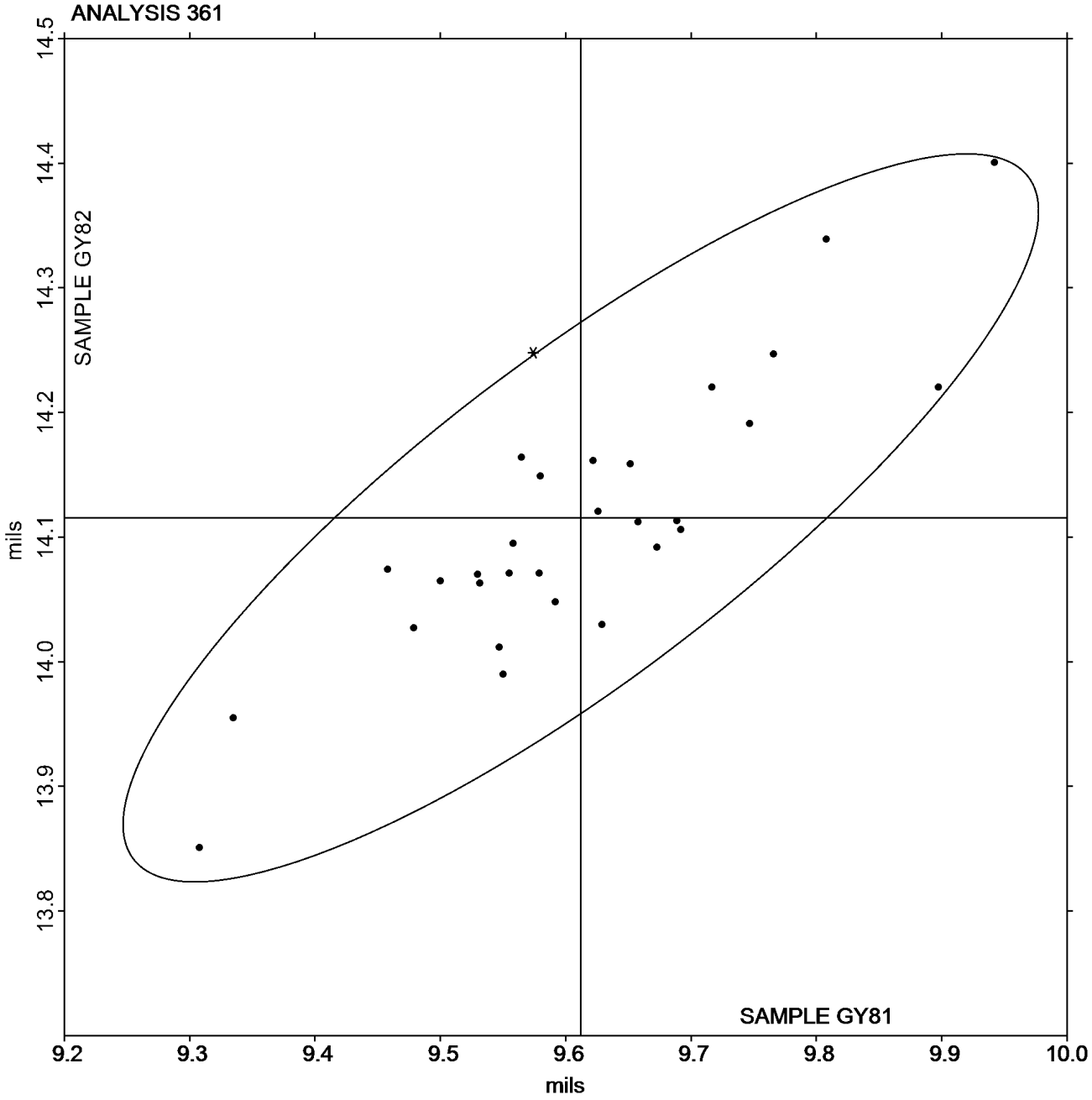
Grand Mean Sample GY81 = 9.6120 mils

Grand Mean Sample GY82 = 14.115 mils



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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 GD81 Lab Mean	Sample GD81 Diff from Grand Mean	Sample GD81 CPV	Sample GD82 Lab Mean	Sample GD82 Diff from Grand Mean	Sample GD82 CPV	Instr Code
6X67RQ		0.4014	-0.1052	-1.33	0.4068	-0.1165	-1.26	TM
7M4XQZ		0.5392	0.0326	0.41	0.6220	0.0987	1.07	TA
7NAMQN		0.5160	0.0094	0.12	0.4940	-0.0293	-0.32	TA
8UWXDQ		0.5038	-0.0028	-0.04	0.5916	0.0683	0.74	TA
JZLAGB		0.6018	0.0952	1.20	0.6144	0.0911	0.98	TA
K2WB4A		0.5510	0.0444	0.56	0.5426	0.0193	0.21	TA
QQ9TP3		0.5170	0.0104	0.13	0.5564	0.0331	0.36	IT
TLBQ3E		0.4420	-0.0646	-0.82	0.4380	-0.0853	-0.92	TA
UKC3YA		0.3774	-0.1292	-1.63	0.3646	-0.1587	-1.71	XX
VK6FV2		0.6162	0.1096	1.39	0.6024	0.0791	0.85	TA

Summary Statistics	Sample GD81	Sample GD82
Grand Means	0.51 COF	0.52 COF
Stnd Dev Btwn Labs	0.08 COF	0.09 COF

Statistics based on 10 of 10 reporting participants.

Key to Instrument Codes Reported by Participants

IT	IMASS SP-2100	TA	Thwing-Albert Friction Tester
TM	TMI 32-06 Monitor/Slip and Friction	XX	Instrument make/model not specified by lab

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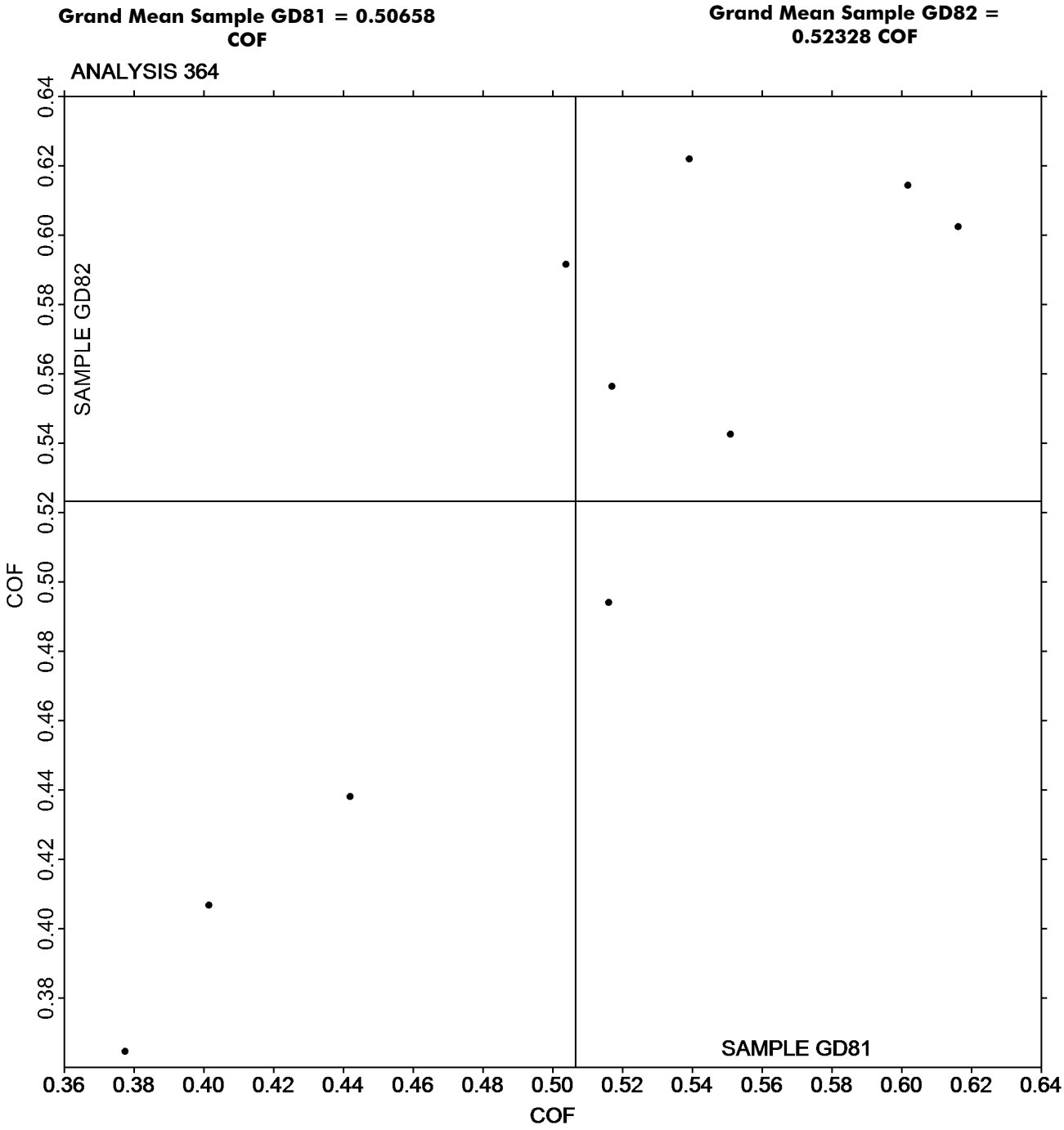

If fewer than 20 laboratories are included in an analysis, a control ellipse will not be drawn on the two-sample plot.

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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 GD81 Lab Mean	Sample GD81 Diff from Grand Mean	Sample GD81 CPV	Sample GD82 Lab Mean	Sample GD82 Diff from Grand Mean	Sample GD82 CPV	Instr Code
7M4XQZ		0.3642	0.0002	0.00	0.4280	0.0436	0.50	TA
7NAMQN		0.3520	-0.0120	-0.18	0.3400	-0.0444	-0.51	XX
8UWXDQ		0.4100	0.0460	0.67	0.4368	0.0524	0.61	TN
JZLAGB		0.4376	0.0736	1.08	0.5068	0.1224	1.41	TA
K2WB4A		0.4442	0.0802	1.17	0.4500	0.0656	0.76	TA
QQ9TP3		0.3202	-0.0438	-0.64	0.3244	-0.0600	-0.69	IR
TLBQ3E		0.2360	-0.1280	-1.87	0.2360	-0.1484	-1.71	TA
UKC3YA		0.3478	-0.0162	-0.24	0.3530	-0.0314	-0.36	XX

Summary Statistics	Sample GD81	Sample GD82
Grand Means	0.36 COF	0.38 COF
Stnd Dev Btwn Labs	0.07 COF	0.09 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

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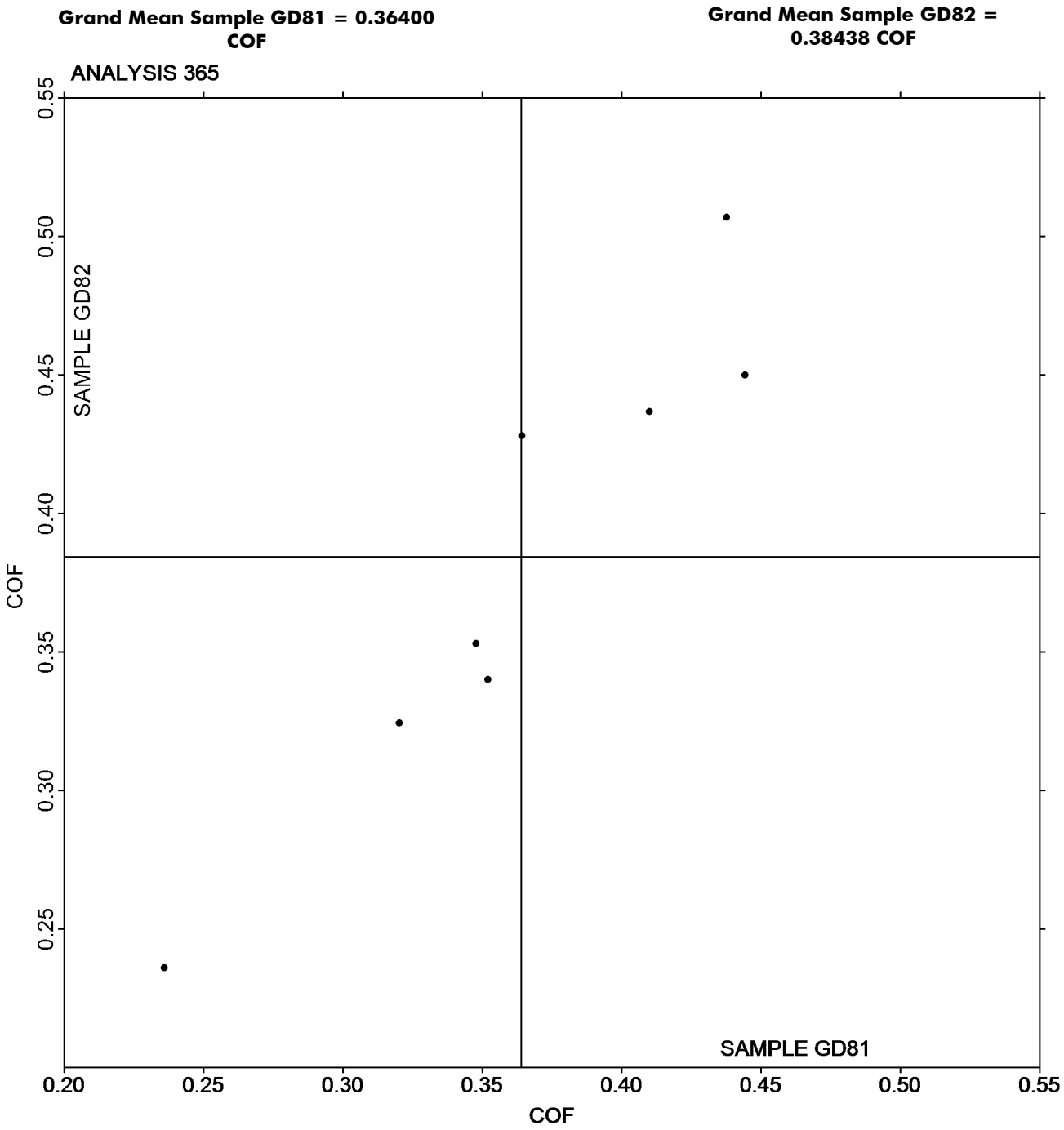

If fewer than 20 laboratories are included in an analysis, a control ellipse will not be drawn on the two-sample plot.

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Paper & Paperboard Interlaboratory Testing Program

Analysis 370

Air Resistance - Gurley Oil Type

TAPPI Official Test Method T460

WebCode	Data Flag	Sample GE81 Lab Mean	Sample GE81 Diff from Grand Mean	Sample GE81 CPV	Sample GE82 Lab Mean	Sample GE82 Diff from Grand Mean	Sample GE82 CPV	Instr Code
2MF9DV		19.44	-1.13	-1.04	19.66	-0.86	-0.88	LP
4BVG2R		21.64	1.07	0.99	20.53	0.00	0.00	LA
4JQETZ		19.07	-1.50	-1.39	20.50	-0.02	-0.02	PP
6C4BY3		19.94	-0.63	-0.58	19.71	-0.81	-0.83	HG
6ETGET		22.82	2.25	2.08	20.83	0.31	0.31	PP
76XXDQ	X	16.26	-4.31	-3.98	14.98	-5.54	-5.67	HM
7M4XQZ		21.39	0.82	0.76	20.89	0.37	0.38	WG
7MJGBX		19.45	-1.12	-1.04	20.24	-0.28	-0.28	LW
7NAMQN		21.05	0.48	0.45	22.05	1.53	1.56	PP
8P3VEX		21.97	1.40	1.30	20.19	-0.33	-0.34	LP
92DTUL		20.44	-0.13	-0.12	19.95	-0.57	-0.59	PP
A7YZVQ		19.76	-0.81	-0.75	18.80	-1.72	-1.76	PP
AALJWN	X	7.57	-13.00	-12.02	7.62	-12.90	-13.21	LP
AAYCRQ		21.79	1.22	1.13	21.63	1.11	1.14	PP
AU8EPV		19.92	-0.65	-0.60	20.22	-0.30	-0.31	LA
B7GB7J		20.05	-0.52	-0.48	20.60	0.08	0.08	PP
BNWK7J		20.09	-0.48	-0.44	19.94	-0.58	-0.59	LP
D4PU8V		21.12	0.55	0.51	20.54	0.02	0.02	LP
DB36YL		20.19	-0.38	-0.35	20.79	0.27	0.28	HG
DKD8KM		21.00	0.43	0.40	19.92	-0.60	-0.61	PP
GEEWYD		19.58	-0.99	-0.91	19.22	-1.30	-1.33	GL
J7BPAN		19.96	-0.61	-0.56	20.17	-0.35	-0.36	LP
JGRGWD		20.38	-0.19	-0.17	21.62	1.09	1.12	PP
KEKDNM	X	15.00	-5.57	-5.15	15.80	-4.72	-4.83	GL
KV9Q3F		21.01	0.44	0.41	20.68	0.16	0.17	PP
NH8LYJ		19.68	-0.89	-0.82	19.69	-0.84	-0.86	PP
NVR23H		20.43	-0.14	-0.13	20.25	-0.27	-0.28	LP
NXH8J9		21.63	1.06	0.98	22.12	1.60	1.64	TL
PQCTEJ		22.09	1.52	1.41	22.06	1.54	1.58	XX
PT3YVA		21.87	1.30	1.20	22.05	1.53	1.57	VM
QZWJEF		20.98	0.41	0.38	21.61	1.09	1.12	HG
RHE3L8		19.96	-0.61	-0.56	19.87	-0.65	-0.67	XX
TLBQ3E		19.37	-1.20	-1.11	20.33	-0.19	-0.20	PP
UKC3YA		20.90	0.33	0.31	19.90	-0.62	-0.64	GS
VUV22Y	*	21.09	0.52	0.48	23.02	2.50	2.56	TL
WKNJ32		19.50	-1.07	-0.99	19.60	-0.92	-0.94	LW
WR43MZ	X	15.68	-4.89	-4.52	16.39	-4.13	-4.23	HM
WXPAN7		21.18	0.61	0.56	20.30	-0.22	-0.23	PP
XFAZN6		17.97	-2.60	-2.40	18.81	-1.71	-1.75	LP
XU9A3Y		22.80	2.23	2.06	21.40	0.88	0.90	PP
YECE6X		19.56	-1.01	-0.93	19.59	-0.93	-0.95	LP

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Summary Statistics	Sample GE81	Sample GE82
Grand Means	20.57 sec/100 cc	20.52 sec/100 cc
Stnd Dev Btwn Labs	1.08 sec/100 cc	0.98 sec/100 cc

Statistics based on 37 of 41 reporting participants.

Comments on Assigned Data Flags for Test #370

AALJWN (X) - Extreme Data.

76XXDQ (X) - Data for both samples are low.

WR43MZ (X) - Data for both samples are low.

KEKDNM (X) - Data for both samples are low. Inconsistent within the determinations of sample GE81.

Key to Instrument Codes Reported by Participants

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	VM	Valmet PaperLab (was Kajaani/Robotest)
WG	W & LE Gurley Tester	XX	Instrument make/model not specified by lab

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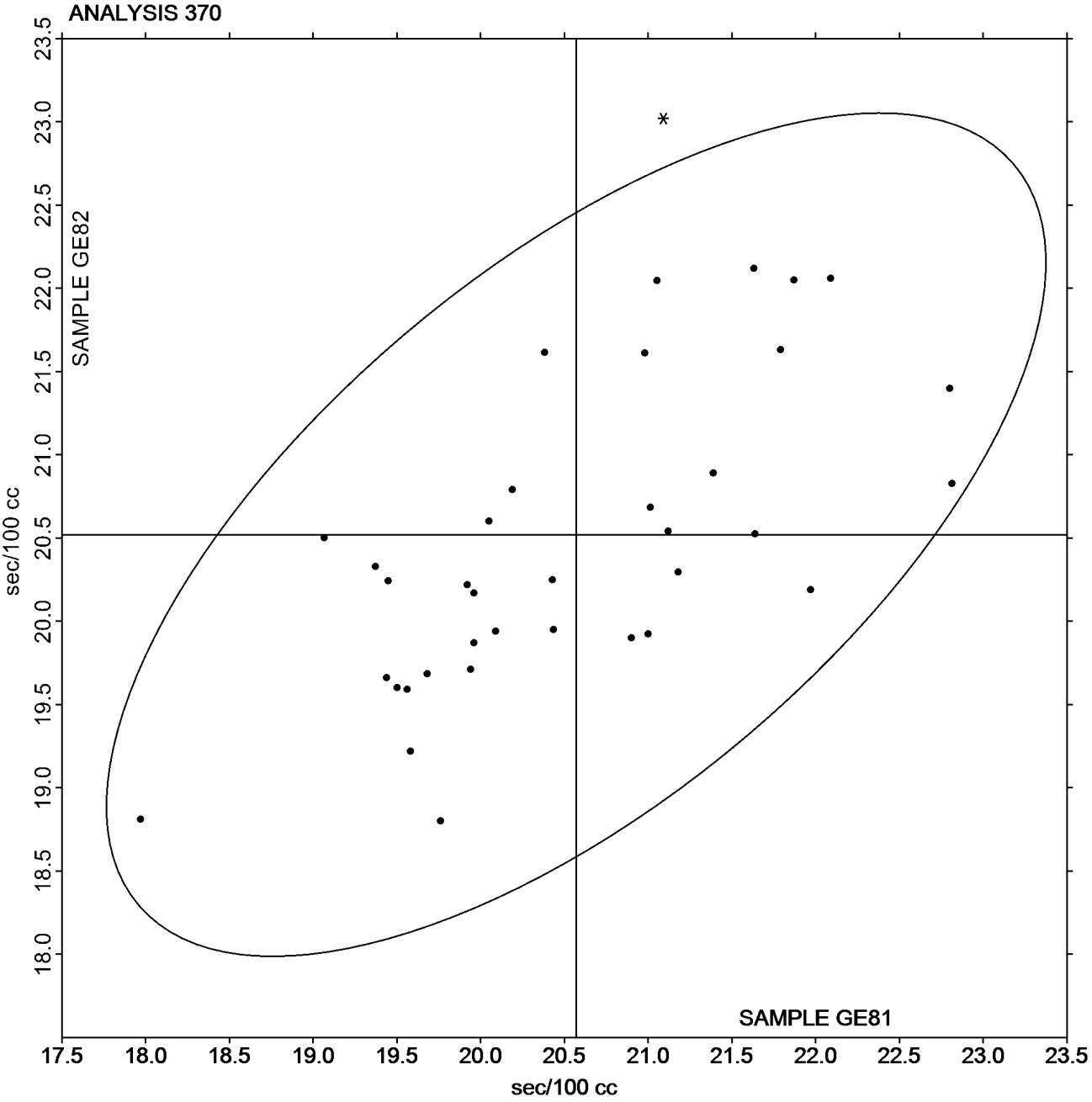
Grand Mean Sample GE81 = 20.569 sec/100 cc

Grand Mean Sample GE82 = 20.521 sec/100 cc



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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 GE81 Lab Mean	Sample GE81 Diff from Grand Mean	Sample GE81 CPV	Sample GE82 Lab Mean	Sample GE82 Diff from Grand Mean	Sample GE82 CPV	Instr Code
7BQZLW		131.6	-0.8	-0.30	141.7	4.8	0.92	LA
92DTUL		131.4	-1.0	-0.39	133.0	-4.0	-0.76	PP
D8KLER		128.7	-3.6	-1.43	134.3	-2.7	-0.51	SH
PFRLD9		136.4	4.1	1.60	138.1	1.1	0.22	HM
PT3YVA		132.8	0.4	0.18	144.0	7.0	1.34	PP
VB7HC8	X	243.8	111.5	43.89	236.8	99.8	19.06	LP
XU9A3Y		133.2	0.9	0.34	130.6	-6.4	-1.21	PP

Summary Statistics	Sample GE81	Sample GE82
Grand Means	132.33 Sheffield Units	136.95 Sheffield Units
Stnd Dev Btwn Labs	2.54 Sheffield Units	5.24 Sheffield Units

Statistics based on 6 of 7 reporting participants.

Comments on Assigned Data Flags for Test #372

VB7HC8 (X) - Extreme Data.

Analysis Notes:

7BQZLW - One determination removed from the Lab Mean of Sample GE81 per Grubb's Test at 1% risk (TAPPI 1205).

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		

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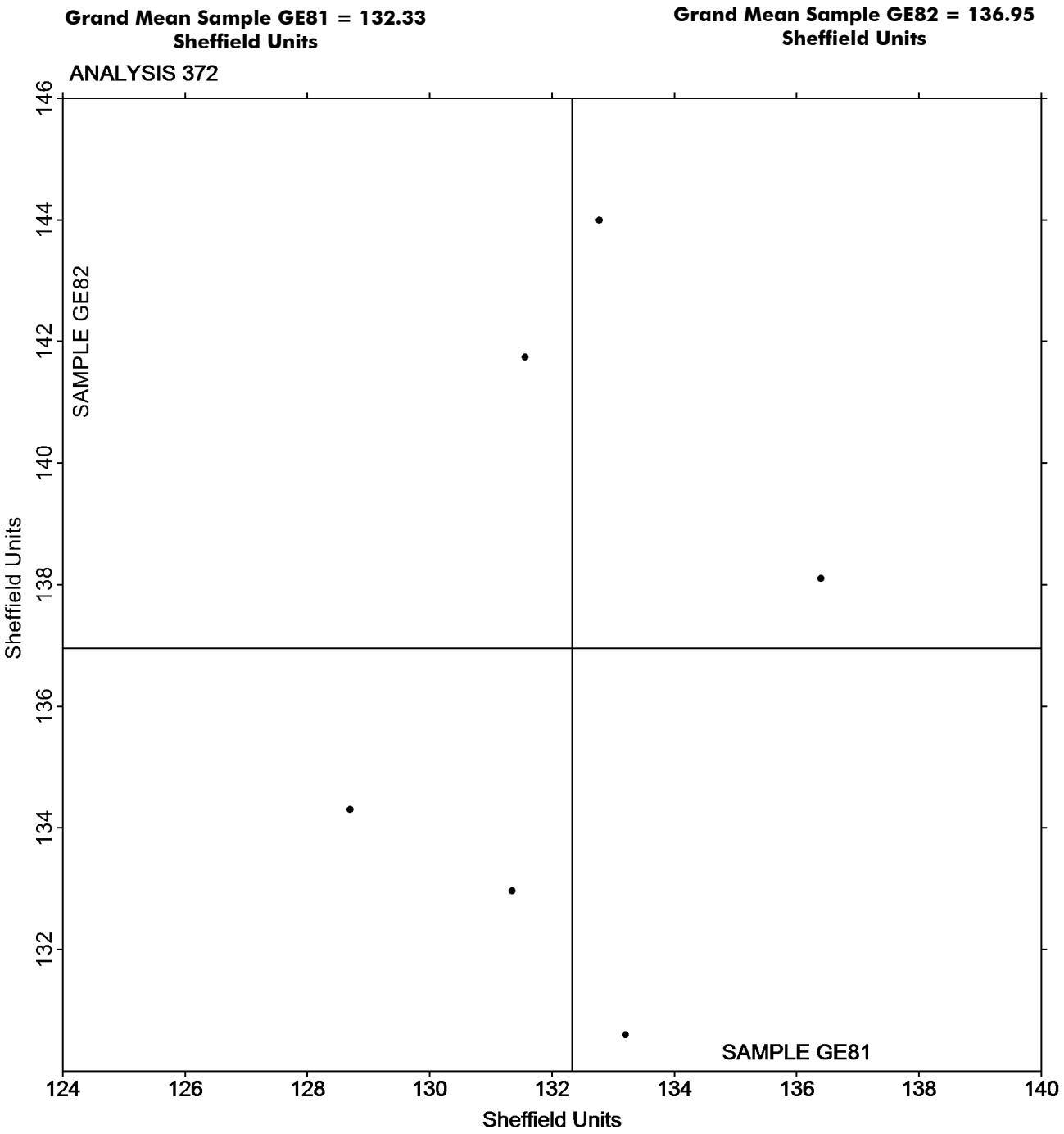

If fewer than 20 laboratories are included in an analysis, a control ellipse will not be drawn on the two-sample plot.

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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 GJ81 Lab Mean	Sample GJ81 Diff from Grand Mean	Sample GJ81 CPV	Sample GJ82 Lab Mean	Sample GJ82 Diff from Grand Mean	Sample GJ82 CPV	Instr Code
34KVH4		1.675	0.141	1.51	2.197	0.088	0.57	ZZ
3PYKVX		1.610	0.076	0.82	2.212	0.103	0.67	ZZ
3QAP3V		1.550	0.016	0.17	2.071	-0.038	-0.25	ZZ
3TL6WV		1.536	0.002	0.02	2.067	-0.042	-0.27	ZZ
7M4XQZ		1.416	-0.118	-1.27	1.931	-0.178	-1.16	ZZ
8CDYCY	*	1.799	0.264	2.84	2.323	0.214	1.39	ZZ
8L3KHX	X	2.048	0.514	5.53	2.183	0.074	0.48	ZZ
8P3VEX		1.528	-0.006	-0.07	2.067	-0.042	-0.27	ZZ
92DTUL		1.572	0.038	0.41	2.259	0.150	0.98	ZZ
A682HR		1.606	0.072	0.77	1.922	-0.187	-1.21	ZZ
ARH3QP		1.392	-0.142	-1.53	1.907	-0.202	-1.31	ZZ
DB36YL		1.559	0.025	0.27	2.313	0.204	1.33	ZZ
DKD8KM		1.430	-0.104	-1.12	1.720	-0.389	-2.53	ZZ
DPMK3L		1.522	-0.012	-0.13	2.175	0.066	0.43	ZZ
EKJAKQ		1.580	0.046	0.49	2.132	0.023	0.15	ZZ
EV4KUH		1.420	-0.114	-1.23	2.119	0.010	0.07	ZZ
JXGJGM		1.613	0.079	0.85	2.375	0.266	1.73	ZZ
JZLAGB		1.547	0.013	0.14	2.115	0.006	0.04	ZZ
KV9Q3F		1.658	0.124	1.33	2.177	0.068	0.44	ZZ
MQ28RC		1.521	-0.013	-0.14	2.123	0.014	0.09	ZZ
PT3YVA		1.554	0.020	0.21	2.288	0.179	1.17	ZZ
PXD6BF		1.501	-0.033	-0.36	2.109	0.000	0.00	ZZ
Q3MPU7		1.392	-0.142	-1.53	2.076	-0.033	-0.21	ZZ
Q7MUNE		1.467	-0.067	-0.72	2.246	0.137	0.89	ZZ
QG9XVE		1.483	-0.051	-0.55	2.035	-0.074	-0.48	ZZ
R67WWE		1.526	-0.008	-0.09	2.061	-0.048	-0.31	ZZ
RWWVBE		1.530	-0.004	-0.04	2.073	-0.036	-0.23	ZZ
TLBQ3E		1.570	0.036	0.39	2.160	0.051	0.33	ZZ
UQHWU6		1.400	-0.134	-1.44	1.790	-0.319	-2.07	ZZ

Summary Statistics	Sample GJ81	Sample GJ82
Grand Means	1.53 Microns	2.11 Microns
Stnd Dev Btwn Labs	0.09 Microns	0.15 Microns

Statistics based on 28 of 29 reporting participants.

Comments on Assigned Data Flags for Test #376

8L3KHX (X) - Data for sample GJ81 are high.

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Key to Instrument Codes Reported by Participants

ZZ Instruments No Longer Tracked

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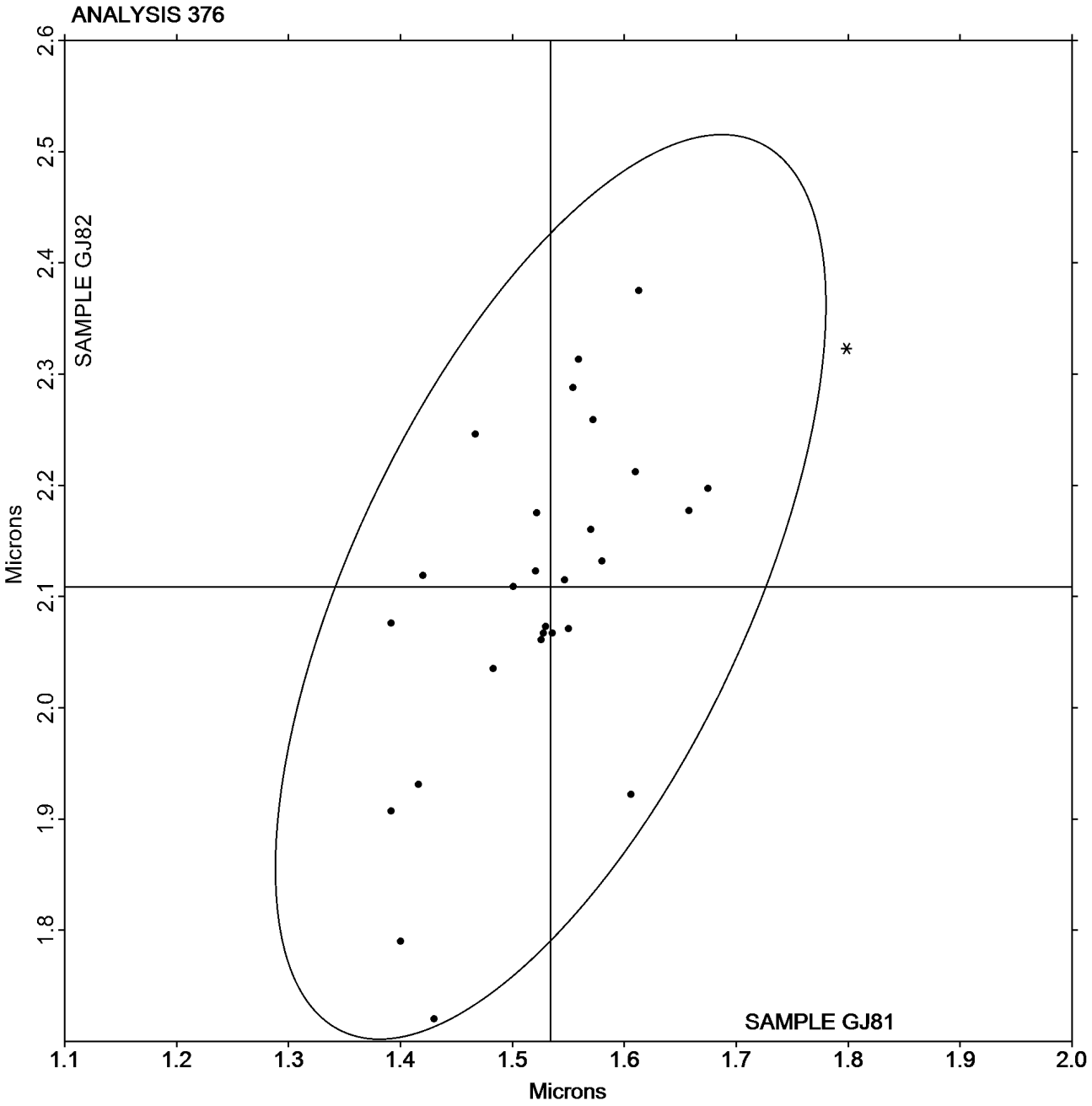
Grand Mean Sample GJ81 = 1.5342 Microns

Grand Mean Sample GJ82 = 2.1087 Microns



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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 GK81 Lab Mean	Sample GK81 Diff from Grand Mean	Sample GK81 CPV	Sample GK82 Lab Mean	Sample GK82 Diff from Grand Mean	Sample GK82 CPV	Instr Code
7M4XQZ		5.553	-0.184	-0.58	5.454	-0.303	-0.89	ZZ
839RXZ		6.403	0.666	2.09	6.427	0.670	1.97	ZZ
8UWXDQ		5.922	0.185	0.58	5.937	0.180	0.53	ZZ
AU8EPV		5.358	-0.379	-1.19	5.408	-0.349	-1.03	ZZ
B7GB7J		5.587	-0.150	-0.47	5.915	0.158	0.47	ZZ
EV4KUH		5.557	-0.180	-0.57	5.546	-0.211	-0.62	ZZ
Q3MPU7		5.782	0.045	0.14	5.554	-0.203	-0.60	ZZ
VK6FV2		5.736	-0.001	0.00	5.813	0.056	0.17	ZZ

Summary Statistics	Sample GK81	Sample GK82
Grand Means	5.74 Microns	5.76 Microns
Stnd Dev Btwn Labs	0.32 Microns	0.34 Microns

Statistics based on 8 of 8 reporting participants.

Key to Instrument Codes Reported by Participants

ZZ Instruments No Longer Tracked

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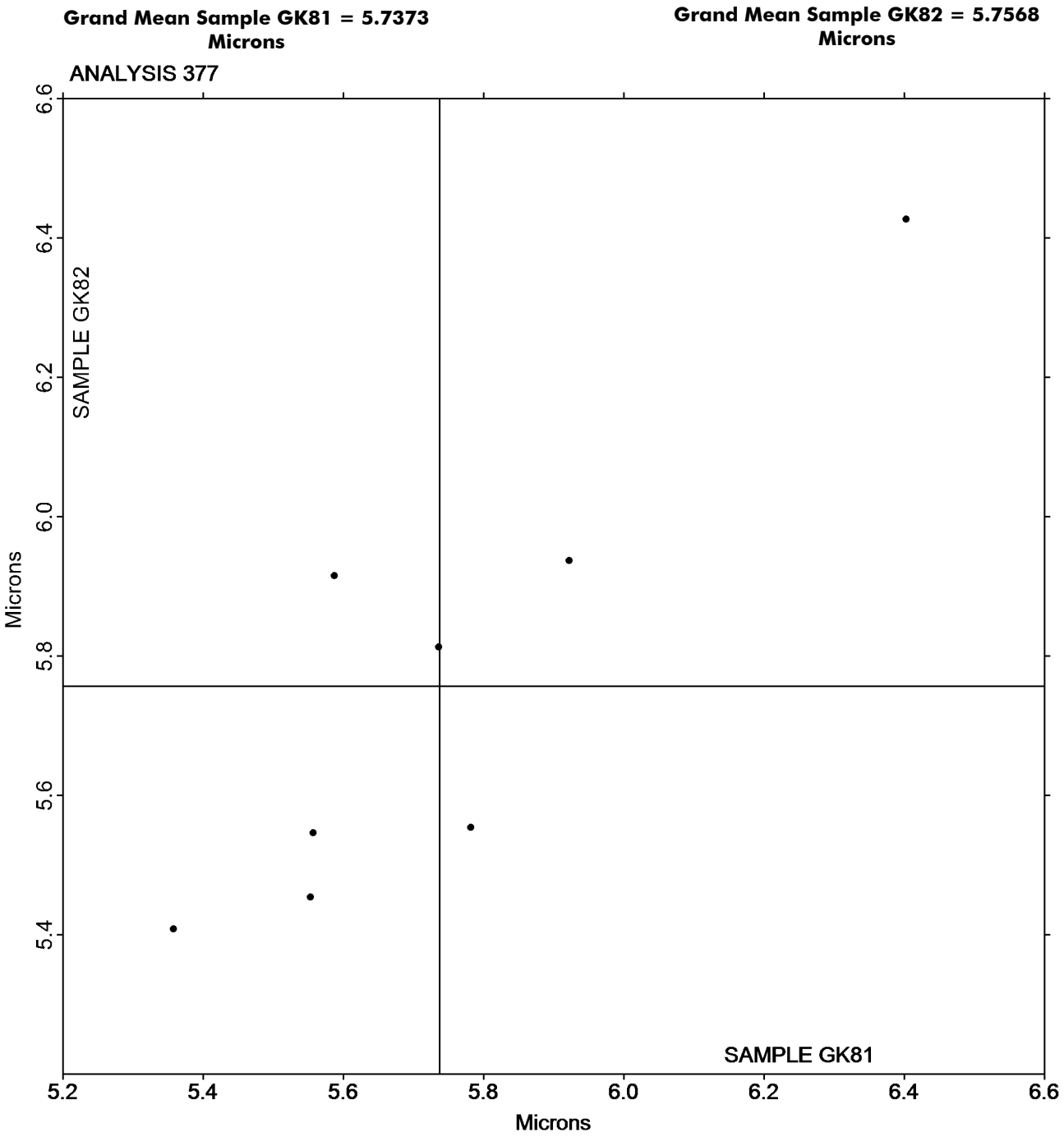

If fewer than 20 laboratories are included in an analysis, a control ellipse will not be drawn on the two-sample plot.

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Paper & Paperboard Interlaboratory Testing Program

Analysis 378

Roughness - Sheffield Type

TAPPI Official Test Method T538

WebCode	Data Flag	Sample GL81 Lab Mean	Sample GL81 Diff from Grand Mean	Sample GL81 CPV	Sample GL82 Lab Mean	Sample GL82 Diff from Grand Mean	Sample GL82 CPV	Instr Code
34KVH4		117.8	0.0	0.00	115.0	-3.0	-0.46	PP
4JQETZ		112.5	-5.2	-0.80	112.5	-5.4	-0.85	SH
4XNQ26		107.0	-10.7	-1.65	108.6	-9.4	-1.47	MP
6C4BY3		122.1	4.4	0.67	126.0	8.1	1.26	TS
6ETGET		123.1	5.4	0.82	122.6	4.6	0.72	PP
76XXDQ		117.2	-0.5	-0.08	110.8	-7.1	-1.12	HM
7M4XQZ		132.4	14.7	2.25	130.9	13.0	2.03	XX
7MJGBX	*	131.3	13.6	2.08	124.6	6.7	1.04	SH
7NAMQN		118.8	1.1	0.16	114.3	-3.7	-0.57	PP
8CDYCY		121.2	3.5	0.53	127.8	9.9	1.54	LW
8P3VEX		116.4	-1.3	-0.21	116.1	-1.8	-0.29	TS
8UWXDQ	X	132.9	15.2	2.33	141.0	23.1	3.61	LW
92DTUL		123.1	5.3	0.82	118.9	0.9	0.15	PP
A682HR		122.4	4.7	0.71	122.0	4.1	0.63	LW
A7YZVQ		117.4	-0.3	-0.05	120.9	3.0	0.47	PP
AALJWN	X	233.7	116.0	17.79	240.3	122.4	19.14	LW
AAYCRQ		118.5	0.8	0.12	120.2	2.3	0.36	PP
AU8EPV		122.0	4.3	0.65	120.0	2.1	0.32	LA
B7GB7J		124.2	6.5	0.99	122.1	4.2	0.65	PP
C23TQM		112.1	-5.6	-0.86	112.2	-5.8	-0.90	PP
D8KLER		115.1	-2.6	-0.41	115.0	-2.9	-0.46	TZ
DB36YL		110.9	-6.8	-1.05	112.7	-5.2	-0.82	HM
EKJAKQ		125.7	7.9	1.22	128.1	10.2	1.59	PP
EV4KUH		118.4	0.7	0.10	124.4	6.5	1.01	LA
GAZEJH		116.9	-0.8	-0.12	114.9	-3.0	-0.47	PP
JGRGWD		107.6	-10.1	-1.55	109.0	-8.9	-1.39	PP
JZLAGB		124.6	6.9	1.05	124.9	7.0	1.09	HM
KV9Q3F		113.8	-4.0	-0.61	114.7	-3.3	-0.51	PP
MZTQ7K	*	131.2	13.5	2.06	136.9	19.0	2.96	HM
NH8LYJ		110.5	-7.2	-1.10	109.8	-8.1	-1.27	PP
NRTP8H	X	148.9	31.2	4.78	139.3	21.4	3.34	TT
PT3YVA		117.2	-0.5	-0.08	119.4	1.5	0.23	HM
PXD6BF		123.5	5.8	0.89	122.6	4.6	0.72	PP
Q3MPU7		117.4	-0.3	-0.05	117.1	-0.8	-0.13	LW
Q7MUNE		111.5	-6.2	-0.95	112.4	-5.6	-0.87	PP
QW2PGE		111.1	-6.7	-1.03	112.1	-5.9	-0.92	PP
QZWJEF		114.8	-2.9	-0.45	114.8	-3.1	-0.49	HM
R67WWE		120.5	2.8	0.43	116.4	-1.5	-0.24	PP
RHE3L8		109.1	-8.6	-1.33	109.4	-8.5	-1.34	XX
RWWVBE		112.4	-5.3	-0.82	115.3	-2.6	-0.41	LA
TLBQ3E		123.8	6.0	0.92	121.7	3.7	0.59	PP

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Paper & Paperboard Interlaboratory Testing Program

Analysis 378

Roughness - Sheffield Type

TAPPI Official Test Method T538

WebCode	Data Flag	Sample GL81 Lab Mean	Sample GL81 Diff from Grand Mean	Sample GL81 CPV	Sample GL82 Lab Mean	Sample GL82 Diff from Grand Mean	Sample GL82 CPV	Instr Code
UDUUBD		118.1	0.4	0.05	116.8	-1.1	-0.18	GA
UQHWU6	*	102.5	-15.2	-2.34	108.6	-9.3	-1.46	LW
VB7HC8	X	74.2	-43.6	-6.68	74.4	-43.6	-6.81	LW
VK6FV2		111.5	-6.2	-0.96	113.3	-4.7	-0.73	PP
WHYCMB	X	156.2	38.5	5.90	158.9	41.0	6.41	GL
WKNJ32		124.1	6.4	0.97	124.0	6.1	0.95	TS
WR43MZ		113.4	-4.3	-0.67	118.1	0.2	0.02	HM
WXPAN7		116.2	-1.6	-0.24	113.1	-4.8	-0.75	PP
XU9A3Y		117.2	-0.5	-0.08	116.7	-1.2	-0.20	PP

Summary Statistics	Sample GL81	Sample GL82
Grand Means	117.75 Sheffield	117.95 Sheffield
Stnd Dev Btwn Labs	6.52 Sheffield	6.39 Sheffield

Statistics based on 45 of 50 reporting participants.

Comments on Assigned Data Flags for Test #378

AALJWN (X) - Extreme Data.

8UWXDQ (X) - Data for sample GL82 are high.

WHYCMB (X) - Extreme Data.

NRTP8H (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of sample GL81.

VB7HC8 (X) - Extreme Data.

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
TZ	TMI Sheffield Paper Tester, Model 58-25	XX	Instrument make/model not specified by lab

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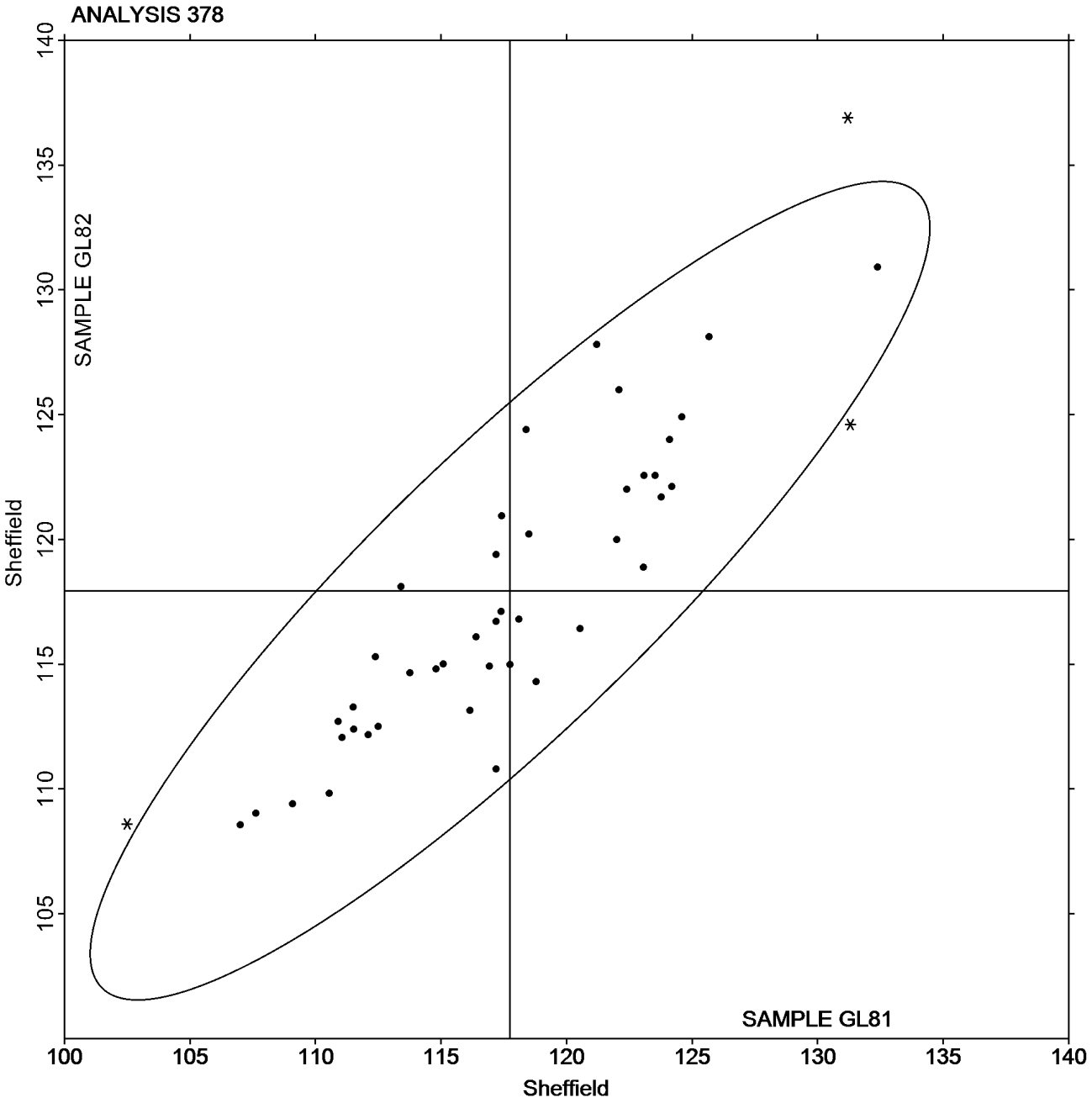
Grand Mean Sample GL81 = 117.75
Sheffield

Grand Mean Sample GL82 = 117.95
Sheffield



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Paper & Paperboard Interlaboratory Testing Program

Analysis 382
Moisture in Paper
TAPPI Official Test Method T412

WebCode	Data Flag	Sample GM81 Lab Mean	Sample GM81 Diff from Grand Mean	Sample GM81 CPV	Sample GM82 Lab Mean	Sample GM82 Diff from Grand Mean	Sample GM82 CPV	Instr Code
3N8LGZ		4.149	-0.537	-1.68	4.471	-0.194	-0.73	ZZ
7NAMQN		4.706	0.020	0.06	4.699	0.034	0.13	ZZ
839RXZ		4.930	0.244	0.77	4.920	0.255	0.95	ZZ
9K28BV		4.713	0.027	0.08	4.560	-0.105	-0.39	ZZ
BQZFPM		4.920	0.234	0.73	4.730	0.065	0.24	ZZ
DZ2H8P		4.910	0.224	0.70	4.460	-0.205	-0.77	ZZ
J7BPAN		4.115	-0.571	-1.79	4.161	-0.504	-1.89	ZZ
ML8B3L		4.800	0.114	0.36	4.755	0.090	0.34	ZZ
QE3FXH		5.021	0.335	1.05	5.120	0.455	1.70	ZZ
YCL9P8		4.595	-0.091	-0.29	4.775	0.110	0.41	ZZ

Summary Statistics	Sample GM81	Sample GM82
Grand Means	4.69 Percent	4.67 Percent
Stnd Dev Btwn Labs	0.32 Percent	0.27 Percent

Statistics based on 10 of 10 reporting participants.

Key to Instrument Codes Reported by Participants

ZZ Instruments No Longer Tracked

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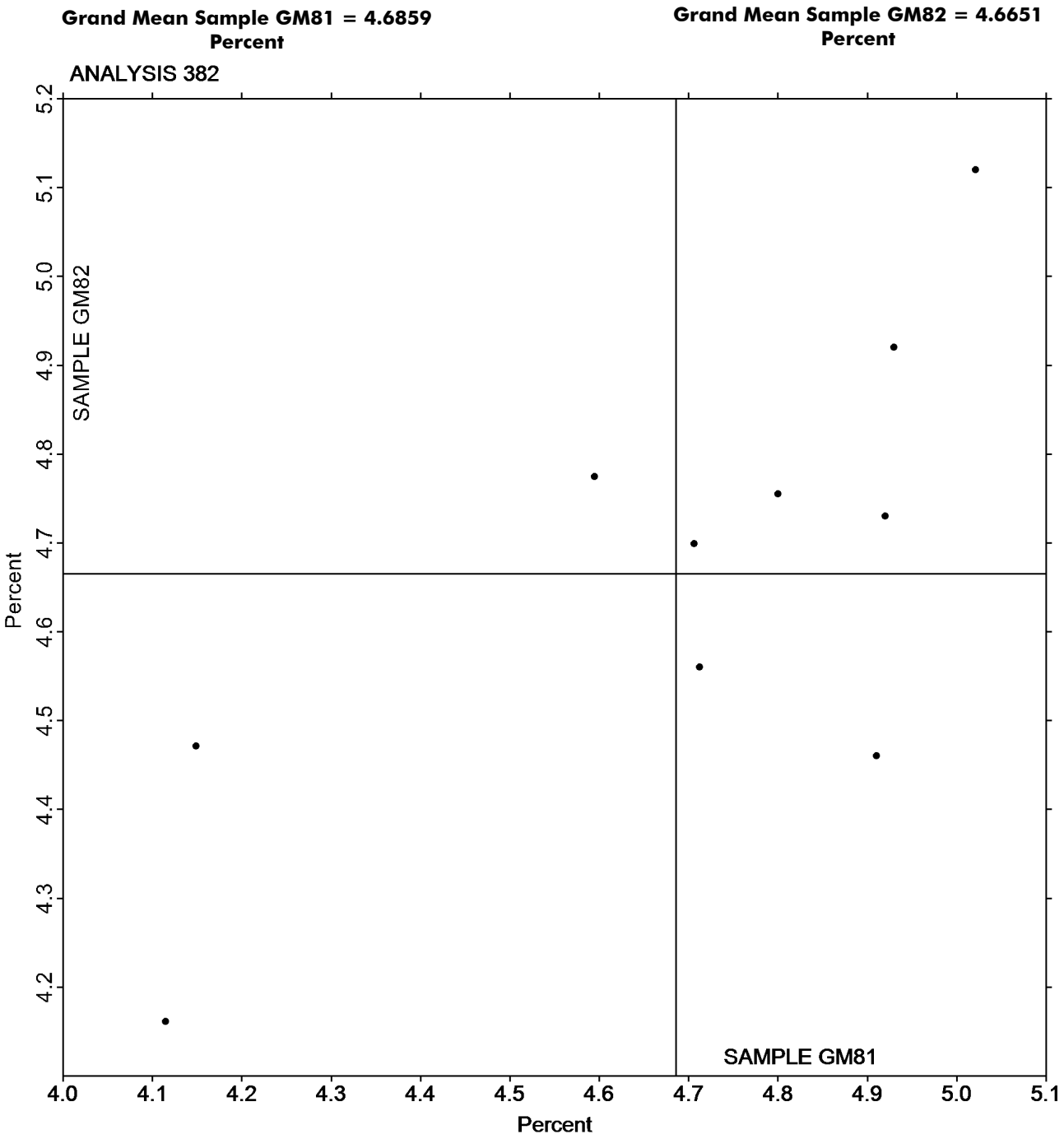

If fewer than 20 laboratories are included in an analysis, a control ellipse will not be drawn on the two-sample plot.

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Paper & Paperboard Interlaboratory Testing Program

Analysis 384

Opacity (89% Reflectance Backing) - Fine Papers

TAPPI Official Test Method T425

WebCode	Data Flag	Sample GN81 Lab Mean	Sample GN81 Diff from Grand Mean	Sample GN81 CPV	Sample GN82 Lab Mean	Sample GN82 Diff from Grand Mean	Sample GN82 CPV	Instr Code
3QAP3V		93.50	-0.10	-0.39	93.47	-0.09	-0.29	ZZ
4JQETZ		93.61	0.01	0.04	93.67	0.11	0.34	ZZ
6C4BY3		93.70	0.10	0.39	93.81	0.25	0.77	ZZ
6ETGET		93.84	0.24	0.92	93.55	-0.01	-0.02	ZZ
6TQNDV	X	94.02	0.42	1.62	90.43	-3.13	-9.63	ZZ
7AFYYX		93.54	-0.06	-0.23	93.52	-0.04	-0.12	ZZ
7NAMQN		93.72	0.12	0.47	93.62	0.06	0.19	ZZ
92DTUL		93.29	-0.31	-1.19	93.61	0.05	0.16	ZZ
AU8EPV		93.67	0.07	0.27	93.49	-0.07	-0.21	ZZ
B7GB7J		93.41	-0.19	-0.72	93.56	0.00	0.01	ZZ
C23TQM		93.67	0.07	0.27	93.63	0.07	0.22	ZZ
D8KLER		93.39	-0.21	-0.80	93.06	-0.50	-1.54	ZZ
DB36YL		93.37	-0.23	-0.88	93.60	0.04	0.13	ZZ
DKD8KM		93.33	-0.27	-1.03	93.59	0.03	0.09	ZZ
DPMK3L		94.05	0.45	1.74	94.17	0.61	1.88	ZZ
JGRGWD	X	96.90	3.30	12.70	93.48	-0.08	-0.24	ZZ
JXGJGM		93.66	0.06	0.22	93.52	-0.04	-0.11	ZZ
JZLAGB		93.84	0.24	0.93	94.03	0.47	1.45	ZZ
QZWJEF		93.93	0.33	1.27	93.77	0.21	0.65	ZZ
RPHMAC		93.66	0.06	0.22	93.59	0.03	0.09	ZZ
TLBQ3E		93.96	0.36	1.38	93.30	-0.26	-0.80	ZZ
UKC3YA	*	93.03	-0.57	-2.19	92.61	-0.95	-2.92	ZZ
VK6FV2		93.86	0.26	1.01	93.42	-0.14	-0.42	ZZ
WHYCMB	X	96.33	2.73	10.50	95.45	1.89	5.82	ZZ
WKNJ32		93.61	0.01	0.04	94.12	0.56	1.73	ZZ
WXPAN7		93.64	0.04	0.16	93.51	-0.05	-0.16	ZZ
XU9A3Y		93.10	-0.50	-1.92	93.20	-0.36	-1.11	ZZ

Summary Statistics	Sample GN81	Sample GN82
Grand Means	93.60 Percent	93.56 Percent
Stnd Dev Btwn Labs	0.26 Percent	0.32 Percent

Statistics based on 24 of 27 reporting participants.

Comments on Assigned Data Flags for Test #384

JGRGWD (X) - Extreme Data for Sample GN81.

WHYCMB (X) - Extreme Data.

6TQNDV (X) - Extreme Data for Sample GN82.

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Key to Instrument Codes Reported by Participants

ZZ Instruments No Longer Tracked

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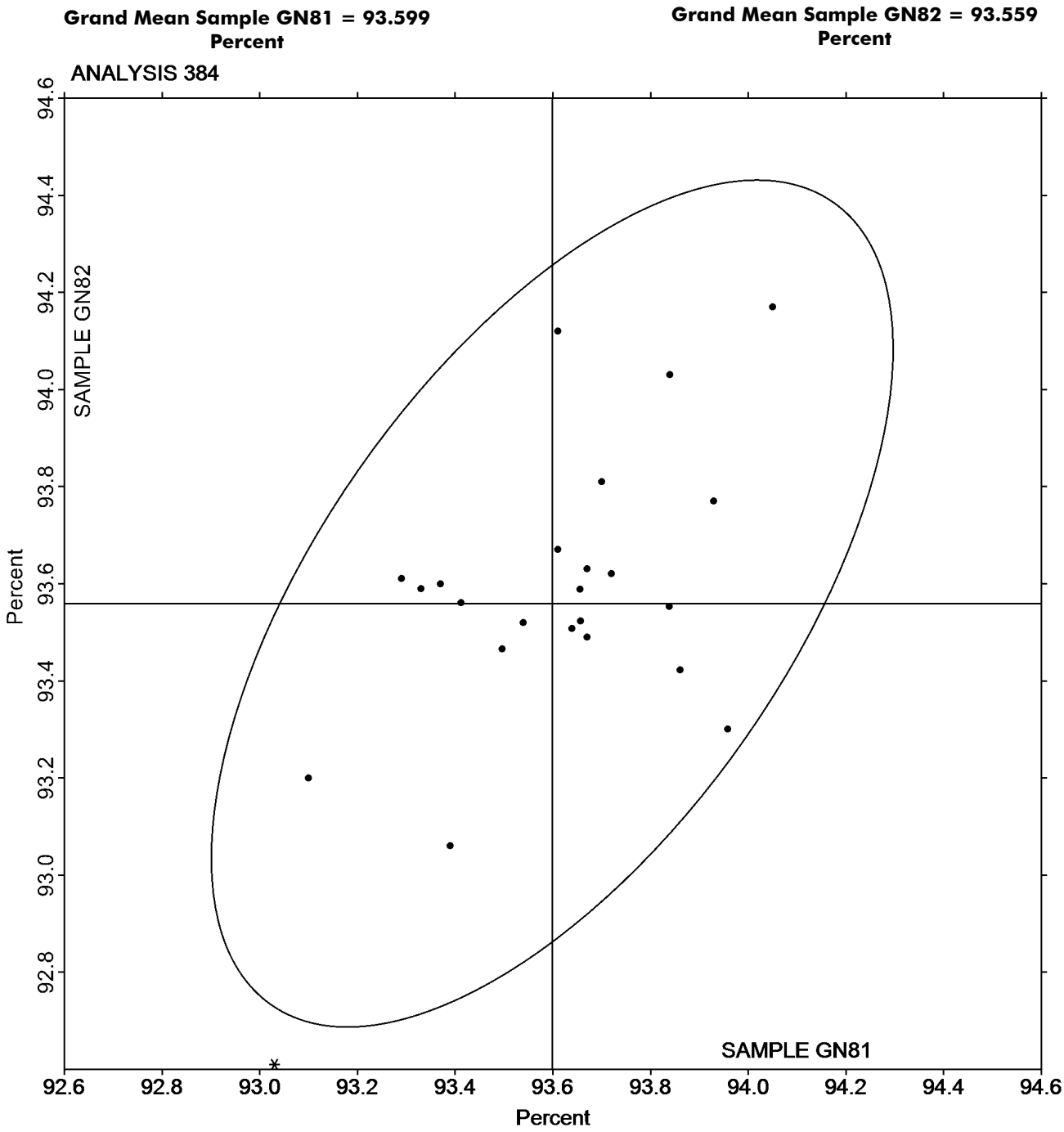

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Paper & Paperboard Interlaboratory Testing Program

Analysis 386

Opacity (Paper Backing) - Fine Papers and Newsprint

TAPPI Official Test Method T519

WebCode	Data Flag	Sample GP81 Lab Mean	Sample GP81 Diff from Grand Mean	Sample GP81 CPV	Sample GP82 Lab Mean	Sample GP82 Diff from Grand Mean	Sample GP82 CPV	Instr Code
47GXLV		96.12	-0.10	-1.72	94.05	-0.06	-0.74	ZZ
6QJDGR		96.24	0.03	0.49	94.26	0.15	1.88	ZZ
ADMNQW		96.24	0.02	0.40	94.09	-0.03	-0.31	ZZ
B4R6PT		96.14	-0.08	-1.32	94.21	0.10	1.24	ZZ
BZRUUT		96.29	0.08	1.34	94.14	0.02	0.29	ZZ
J7BPAN		96.25	0.03	0.58	94.13	0.02	0.20	ZZ
MNXGJC		96.19	-0.02	-0.41	94.04	-0.08	-0.97	ZZ
NVR23H		96.26	0.04	0.75	94.05	-0.07	-0.81	ZZ
QG9XVE		96.21	-0.01	-0.12	94.05	-0.06	-0.76	ZZ
XFAZN6	X	96.25	0.03	0.54	95.62	1.51	18.91	ZZ

Summary Statistics	Sample GP81	Sample GP82
Grand Means	96.21 Percent	94.11 Percent
Stnd Dev Btwn Labs	0.06 Percent	0.08 Percent

Statistics based on 9 of 10 reporting participants.

Comments on Assigned Data Flags for Test #386

XFAZN6 (X) - Extreme Data for Sample GP82.

Key to Instrument Codes Reported by Participants

ZZ Instruments No Longer Tracked

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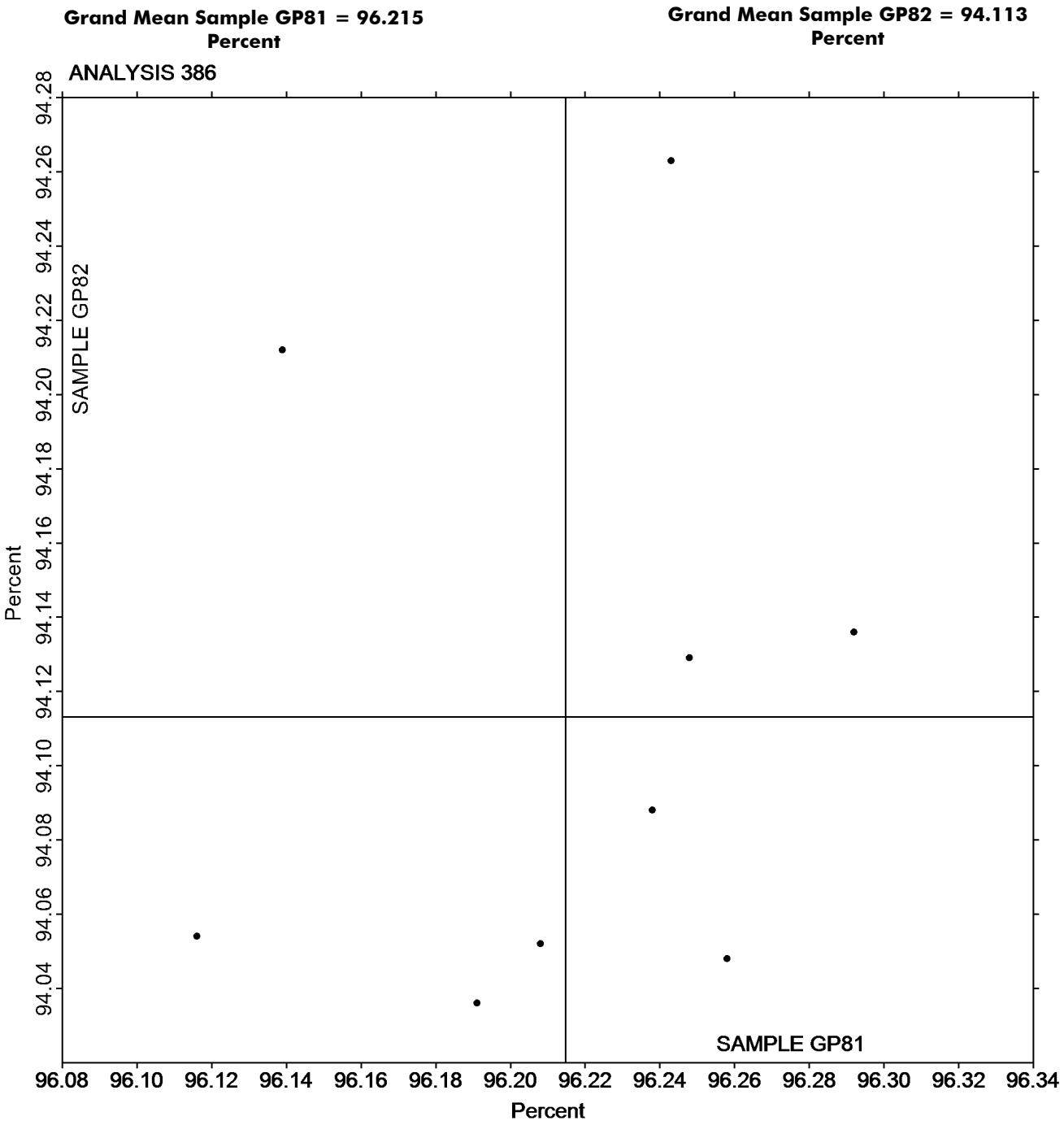

If fewer than 20 laboratories are included in an analysis, a control ellipse will not be drawn on the two-sample plot.

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Paper & Paperboard Interlaboratory Testing Program

Analysis 390
Directional Brightness
TAPPI Official Test Method T452

WebCode	Data Flag	Sample GR81 Lab Mean	Sample GR81 Diff from Grand Mean	Sample GR81 CPV	Sample GR82 Lab Mean	Sample GR82 Diff from Grand Mean	Sample GR82 CPV	Instr Code
34KVH4		84.31	-0.87	-0.64	84.37	-0.79	-0.59	TS
6C4BY3		83.68	-1.51	-1.11	83.73	-1.43	-1.07	TS
6ETGET		84.08	-1.11	-0.82	83.95	-1.20	-0.90	TT
839RXZ	X	72.45	-12.73	-9.38	72.69	-12.46	-9.32	TS
8CDYCY		86.49	1.31	0.97	86.48	1.33	0.99	HG
A682HR		85.25	0.06	0.05	85.18	0.03	0.02	HZ
AU8EPV		85.23	0.05	0.04	85.26	0.11	0.08	TS
C23TQM		84.10	-1.08	-0.80	84.06	-1.09	-0.81	XX
D78B2K		87.02	1.84	1.35	86.95	1.80	1.35	TS
D8KLER		88.15	2.97	2.19	88.08	2.92	2.19	TS
DKD8KM		84.48	-0.71	-0.52	84.40	-0.75	-0.56	TP
DPMK3L	*	86.23	1.04	0.77	86.46	1.31	0.98	TS
EKJAKQ		86.10	0.92	0.68	86.01	0.86	0.64	HG
GAZEJH		83.93	-1.25	-0.92	83.76	-1.39	-1.04	TS
JGRGWD		83.83	-1.36	-1.00	83.79	-1.37	-1.02	TT
JZLAGB		84.00	-1.18	-0.87	83.91	-1.24	-0.93	TS
PXD6BF		84.86	-0.32	-0.24	84.85	-0.30	-0.22	HG
Q3MPU7		83.83	-1.36	-1.00	83.89	-1.26	-0.95	TT
Q7MUNE		87.25	2.07	1.52	87.15	2.00	1.49	TP
QW2PGE		84.33	-0.85	-0.63	84.25	-0.90	-0.67	TS
R67WWE		83.65	-1.53	-1.13	83.89	-1.26	-0.95	TA
RHE3L8		85.45	0.27	0.20	85.36	0.21	0.16	XX
TLBQ3E		87.05	1.87	1.38	86.81	1.66	1.24	TT
UFKZR4		86.31	1.13	0.83	86.20	1.05	0.79	HG
UKC3YA		86.29	1.11	0.82	86.35	1.19	0.89	PE
XU9A3Y	X	84.55	-0.63	-0.47	85.31	0.15	0.11	XC
YLRTCA		83.66	-1.52	-1.12	83.65	-1.51	-1.13	TS

Summary Statistics	Sample GR81	Sample GR82
Grand Means	85.18 Percent	85.15 Percent
Stnd Dev Btwn Labs	1.36 Percent	1.34 Percent

Statistics based on 25 of 27 reporting participants.

Comments on Assigned Data Flags for Test #390

XU9A3Y (X) - Inconsistent in testing between samples.

839RXZ (X) - Extreme Data.

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Key to Instrument Codes Reported by Participants

HG	Hunter Labscan / XE	HZ	Hunter Lab ColorFlex EZ Series
PE	Photovolt 577	TA	Technidyne, Diano, M.S. S-4
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		

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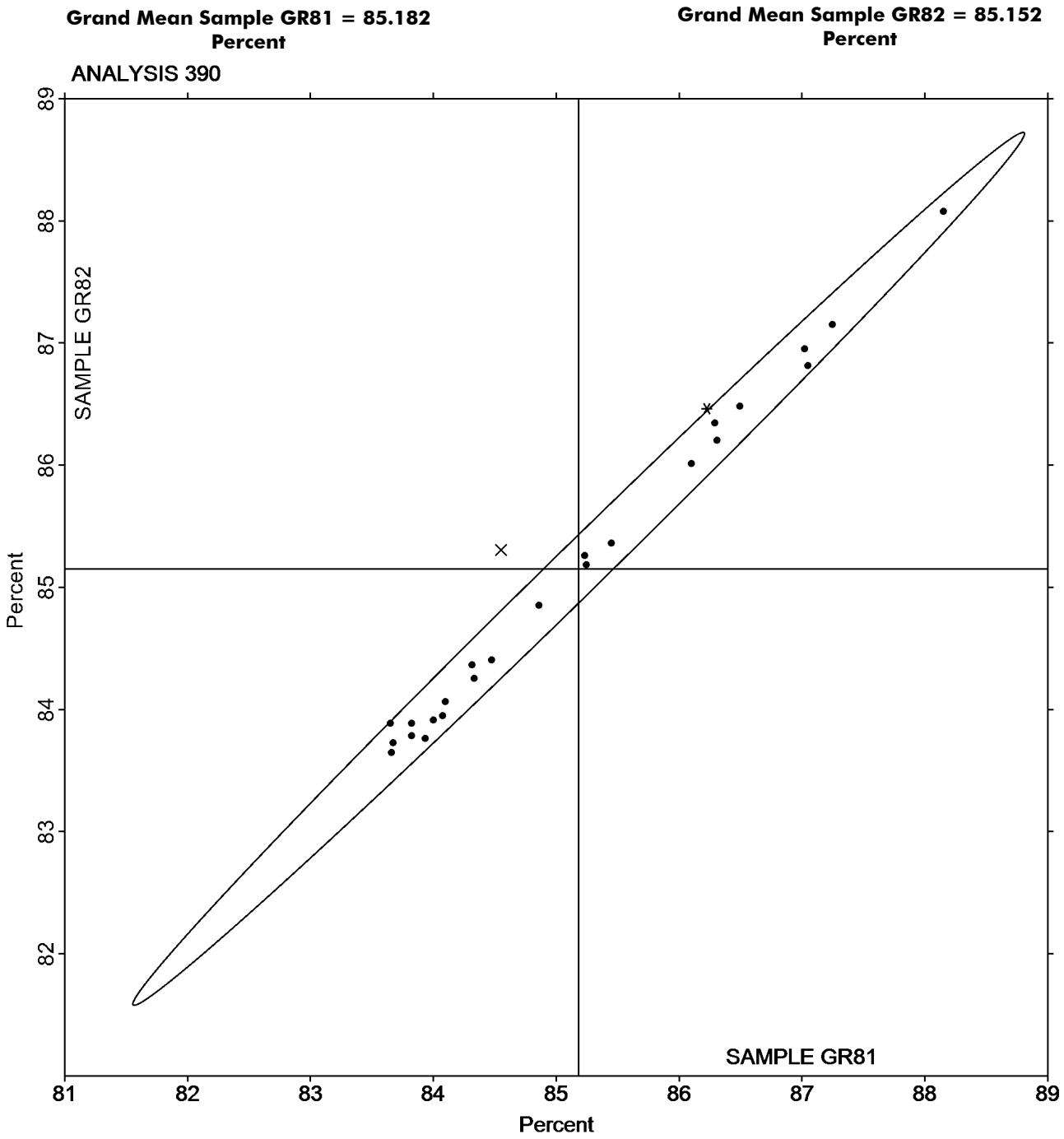

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Paper & Paperboard Interlaboratory Testing Program

Analysis 391

Directional Brightness of Fluorescent Samples

TAPPI Official Test Method T452

WebCode	Data Flag	Sample GZ81 Lab Mean	Sample GZ81 Diff from Grand Mean	Sample GZ81 CPV	Sample GZ82 Lab Mean	Sample GZ82 Diff from Grand Mean	Sample GZ82 CPV	Instr Code
3QAP3V		99.18	0.43	1.47	95.62	0.20	0.77	PP
47GXLV	X	5.74	-93.01	-317.85	0.01	-95.41	-362.59	EF
6C4BY3		98.90	0.15	0.52	95.42	0.00	0.00	TS
6ETGET		98.88	0.13	0.45	95.10	-0.32	-1.21	TT
6TQNDV		99.00	0.25	0.86	95.86	0.44	1.67	TT
7NAMQN		98.63	-0.12	-0.41	95.54	0.12	0.44	TS
B7GB7J		98.67	-0.07	-0.25	95.30	-0.12	-0.44	TS
DB36YL		98.40	-0.35	-1.19	95.22	-0.20	-0.76	TT
JXGJGM		98.88	0.14	0.46	95.55	0.13	0.50	TS
WKNJ32		98.18	-0.57	-1.94	95.00	-0.42	-1.59	TS
WXPAN7		98.76	0.01	0.04	95.58	0.16	0.61	PP

Summary Statistics	Sample GZ81	Sample GZ82
Grand Means	98.75 Percent	95.42 Percent
Stnd Dev Btwn Labs	0.29 Percent	0.26 Percent

Statistics based on 10 of 11 reporting participants.

Comments on Assigned Data Flags for Test #391

47GXLV (X) - Extreme Data.

Key to Instrument Codes Reported by Participants

EF	Datacolor Elrepho	PP	Technidyne Profile/Plus
TS	Technidyne Brightimeter Micro S-5	TT	Technidyne Brightimeter Micro S4-M

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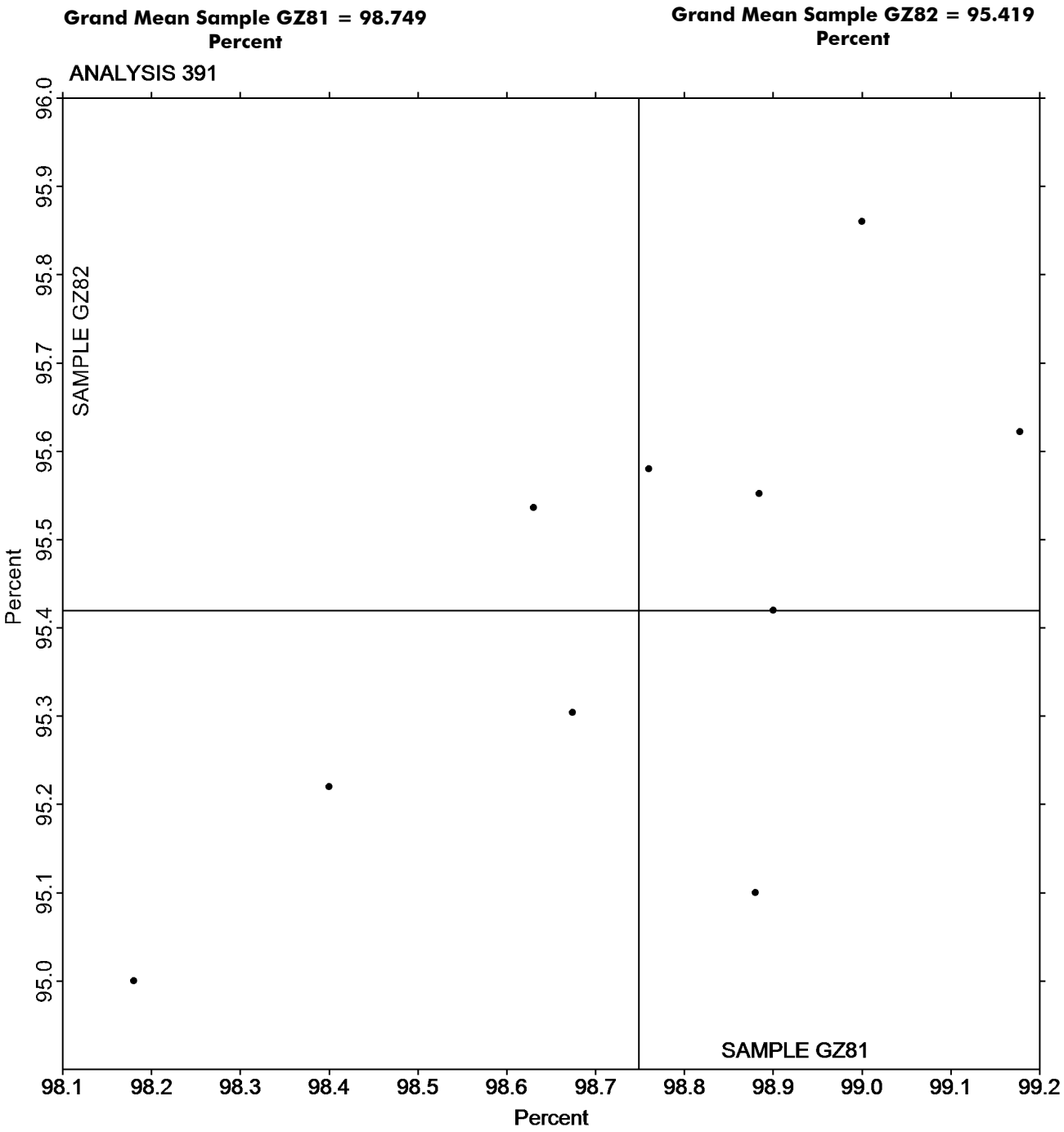

If fewer than 20 laboratories are included in an analysis, a control ellipse will not be drawn on the two-sample plot.

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Paper & Paperboard Interlaboratory Testing Program

Analysis 392
Diffuse Brightness
TAPPI Official Test Method T525

WebCode	Data Flag	Sample GR81 Lab Mean	Sample GR81 Diff from Grand Mean	Sample GR81 CPV	Sample GR82 Lab Mean	Sample GR82 Diff from Grand Mean	Sample GR82 CPV	Instr Code
39V9Y3		84.63	-0.22	-0.89	84.61	-0.23	-0.97	TC
3TL6WV		84.94	0.09	0.36	84.82	-0.02	-0.07	TC
6QJDGR		85.33	0.48	1.95	85.29	0.45	1.88	TC
8CDYCY		84.77	-0.07	-0.30	84.81	-0.03	-0.11	TC
8L3KHX		84.90	0.06	0.23	84.96	0.12	0.51	TC
92DTUL		85.05	0.20	0.81	85.15	0.31	1.28	TC
AALJWN		85.02	0.17	0.71	85.00	0.16	0.67	EF
AAYCRQ		84.79	-0.06	-0.24	84.79	-0.05	-0.21	TC
ADMNQW		85.02	0.18	0.72	85.00	0.16	0.68	LE
ARH3QP		85.07	0.22	0.90	85.06	0.22	0.91	XX
AU8EPV		84.91	0.06	0.24	84.85	0.01	0.06	TC
B4R6PT		84.67	-0.18	-0.72	84.65	-0.19	-0.77	LA
BGECHM		84.58	-0.27	-1.10	84.59	-0.25	-1.04	TC
BZRUUT		84.29	-0.55	-2.25	84.31	-0.53	-2.19	EG
D78B2K		84.75	-0.10	-0.41	84.72	-0.12	-0.49	TC
J7BPAN		84.63	-0.21	-0.87	84.68	-0.16	-0.68	LE
JZLAGB		85.42	0.57	2.33	85.41	0.57	2.38	LT
K2WB4A		84.87	0.03	0.11	84.83	-0.01	-0.03	TC
ML8B3L		84.97	0.12	0.50	84.91	0.07	0.28	EE
MNXGJC		84.85	0.00	0.00	84.74	-0.10	-0.41	TC
NVECY7	X	68.63	-16.22	-66.06	68.88	-15.96	-66.13	TL
Q3MPU7		84.58	-0.27	-1.09	84.60	-0.24	-0.97	EG
Q7MUNE		84.81	-0.03	-0.14	84.80	-0.04	-0.16	TL
QG9XVE		84.73	-0.12	-0.48	84.79	-0.05	-0.19	AC
R67WWE		84.58	-0.27	-1.08	84.57	-0.27	-1.10	LT
XRH4M9		85.02	0.17	0.70	85.01	0.17	0.72	LE

Summary Statistics	Sample GR81	Sample GR82
Grand Means	84.85 Percent	84.84 Percent
Stnd Dev Btwn Labs	0.25 Percent	0.24 Percent

Statistics based on 25 of 26 reporting participants.

Comments on Assigned Data Flags for Test #392

NVECY7 (X) - Extreme Data.

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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
TL	Technidyne Technibrite TB-1	XX	Instrument make/model not specified by lab

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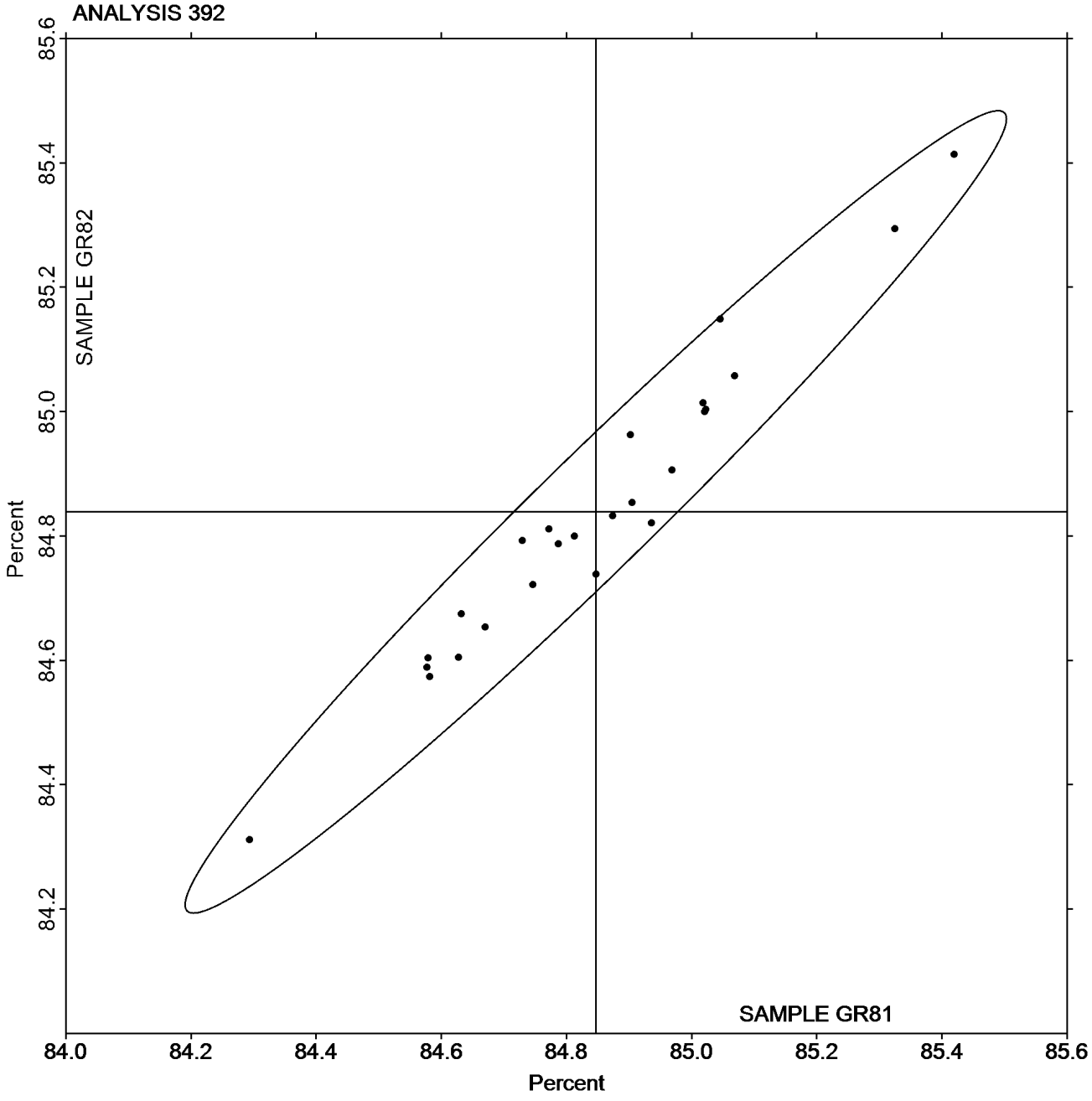
Grand Mean Sample GR81 = 84.847 Percent

Grand Mean Sample GR82 = 84.839 Percent



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Paper & Paperboard Interlaboratory Testing Program

Analysis 394

Fluorescent Component of Directional Brightness

TAPPI Official Test Method T452

WebCode	Data Flag	Sample GZ81 Lab Mean	Sample GZ81 Diff from Grand Mean	Sample GZ81 CPV	Sample GZ82 Lab Mean	Sample GZ82 Diff from Grand Mean	Sample GZ82 CPV	Instr Code
3QAP3V		8.828	-0.023	-0.19	8.136	0.137	0.91	PP
6C4BY3		9.060	0.209	1.68	8.220	0.221	1.47	TS
7NAMQN		8.728	-0.123	-0.99	7.866	-0.133	-0.88	TS
B7GB7J		8.960	0.109	0.88	8.056	0.057	0.38	TS
DB36YL		8.880	0.029	0.23	8.020	0.021	0.14	TT
JXGJGM		8.762	-0.089	-0.72	7.874	-0.125	-0.83	TS
WXPAN7		8.740	-0.111	-0.90	7.820	-0.179	-1.19	PP

Summary Statistics	Sample GZ81	Sample GZ82
Grand Means	8.85 Percent	8.00 Percent
Stnd Dev Btwn Labs	0.12 Percent	0.15 Percent

Statistics based on 7 of 7 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

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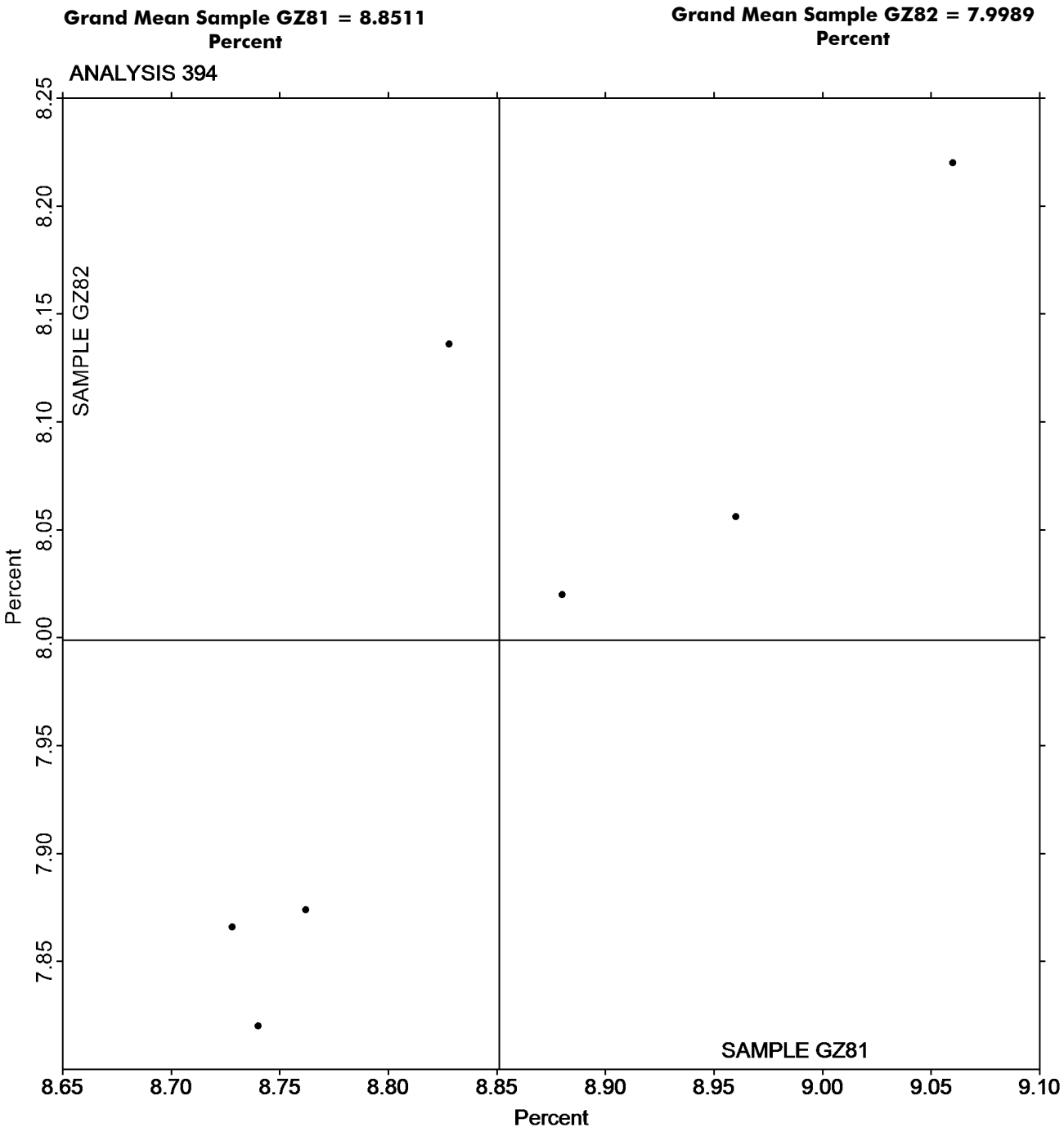

If fewer than 20 laboratories are included in an analysis, a control ellipse will not be drawn on the two-sample plot.

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Paper & Paperboard Interlaboratory Testing Program

Analysis 395

Specular Gloss at 75 Degrees - High Range

TAPPI Official Test Method T480

WebCode	Data Flag	Sample GT81 Lab Mean	Sample GT81 Diff from Grand Mean	Sample GT81 CPV	Sample GT82 Lab Mean	Sample GT82 Diff from Grand Mean	Sample GT82 CPV	Instr Code
3QAP3V		67.48	-0.88	-0.42	77.81	1.04	0.23	PP
47GXLV		68.84	0.48	0.23	76.55	-0.22	-0.05	GM
8P3VEX		69.49	1.13	0.54	78.58	1.81	0.40	XX
DB36YL		66.69	-1.67	-0.79	74.41	-2.36	-0.52	PP
DKD8KM		68.11	-0.25	-0.12	76.69	-0.08	-0.02	TH
DPMK3L		70.16	1.80	0.85	76.95	0.18	0.04	LA
EKJAKQ		67.52	-0.84	-0.40	71.17	-5.60	-1.23	TH
EV4KUH		71.54	3.18	1.51	82.05	5.28	1.16	LA
JXGJGM		66.82	-1.54	-0.73	77.81	1.04	0.23	LF
PT3YVA		67.86	-0.50	-0.24	78.81	2.04	0.45	GM
PXD6BF		68.34	-0.02	-0.01	79.89	3.12	0.69	TH
Q3MPU7		70.52	2.16	1.03	79.33	2.56	0.56	TH
Q7MUNE		68.40	0.04	0.02	80.04	3.27	0.72	GM
QG9XVE		71.56	3.20	1.52	78.43	1.66	0.37	LB
R67WWE		67.48	-0.88	-0.42	77.27	0.50	0.11	GA
RWWVBE	*	62.98	-5.38	-2.56	62.47	-14.30	-3.15	LF

Summary Statistics	Sample GT81	Sample GT82
Grand Means	68.36 Gloss Units	76.77 Gloss Units
Stnd Dev Btwn Labs	2.10 Gloss Units	4.54 Gloss Units

Statistics based on 16 of 16 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

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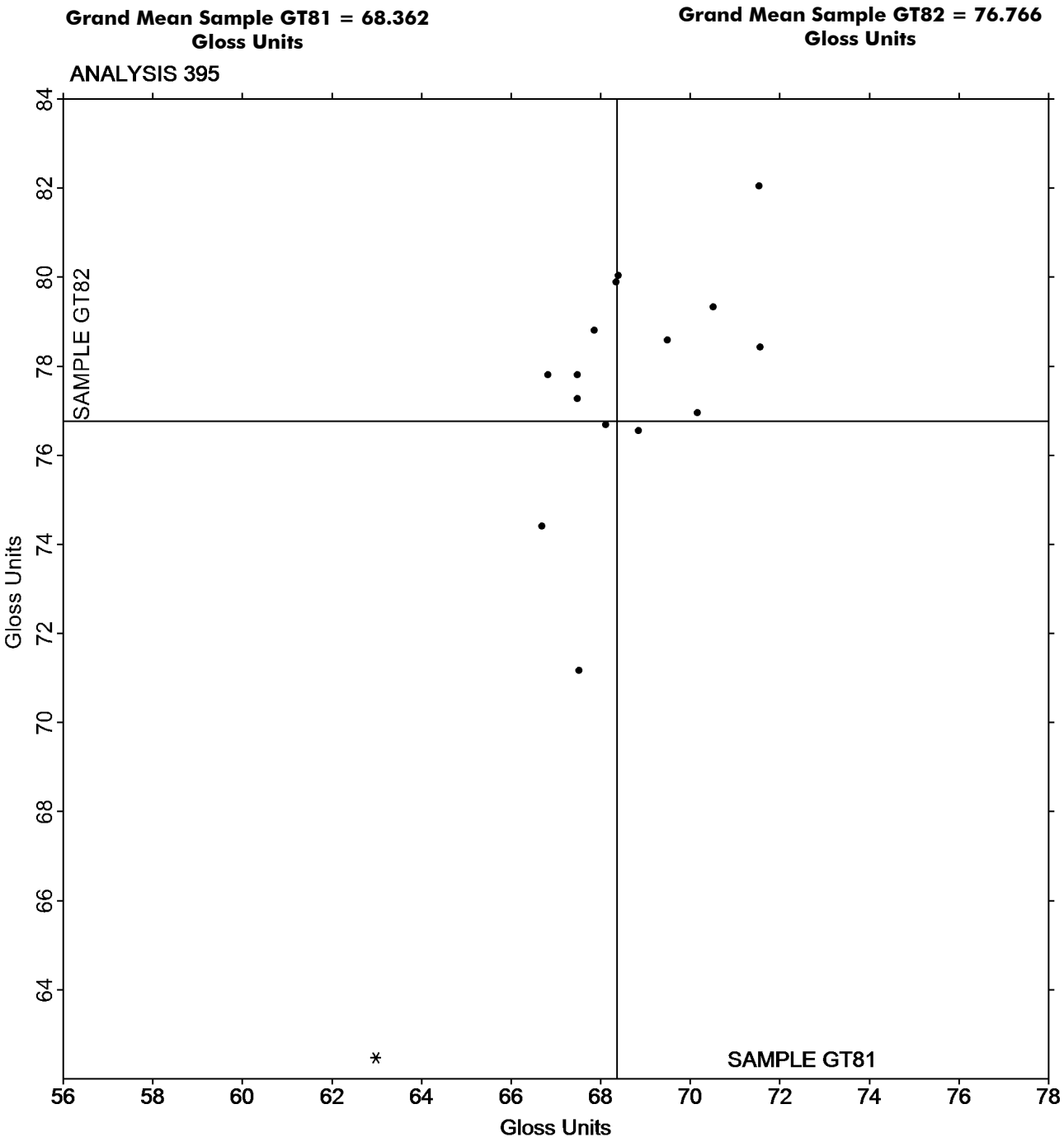

If fewer than 20 laboratories are included in an analysis, a control ellipse will not be drawn on the two-sample plot.

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Paper & Paperboard Interlaboratory Testing Program

Analysis 396

Specular Gloss at 75 Degrees - Low Range

TAPPI Official Test Method T480

WebCode	Data Flag	Sample GU81 Lab Mean	Sample GU81 Diff from Grand Mean	Sample GU81 CPV	Sample GU82 Lab Mean	Sample GU82 Diff from Grand Mean	Sample GU82 CPV	Instr Code
8CDYCY		48.20	2.44	1.02	48.38	2.25	0.98	PP
92DTUL		45.35	-0.41	-0.17	46.23	0.10	0.04	TH
9K28BV		40.74	-5.02	-2.11	41.20	-4.93	-2.15	WJ
A682HR		46.56	0.80	0.34	46.79	0.66	0.29	GS
JGRGWD		46.08	0.32	0.13	46.85	0.72	0.31	TH
QG9XVE		46.34	0.58	0.24	46.41	0.28	0.12	LA
VK6FV2		44.63	-1.13	-0.48	44.89	-1.24	-0.54	PP
XU9A3Y		48.20	2.44	1.02	48.30	2.17	0.95	TH

Summary Statistics	Sample GU81	Sample GU82
Grand Means	45.76 Gloss Units	46.13 Gloss Units
Stnd Dev Btwn Labs	2.38 Gloss Units	2.29 Gloss Units

Statistics based on 8 of 8 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
WJ	Zehntner ZLR 1020		

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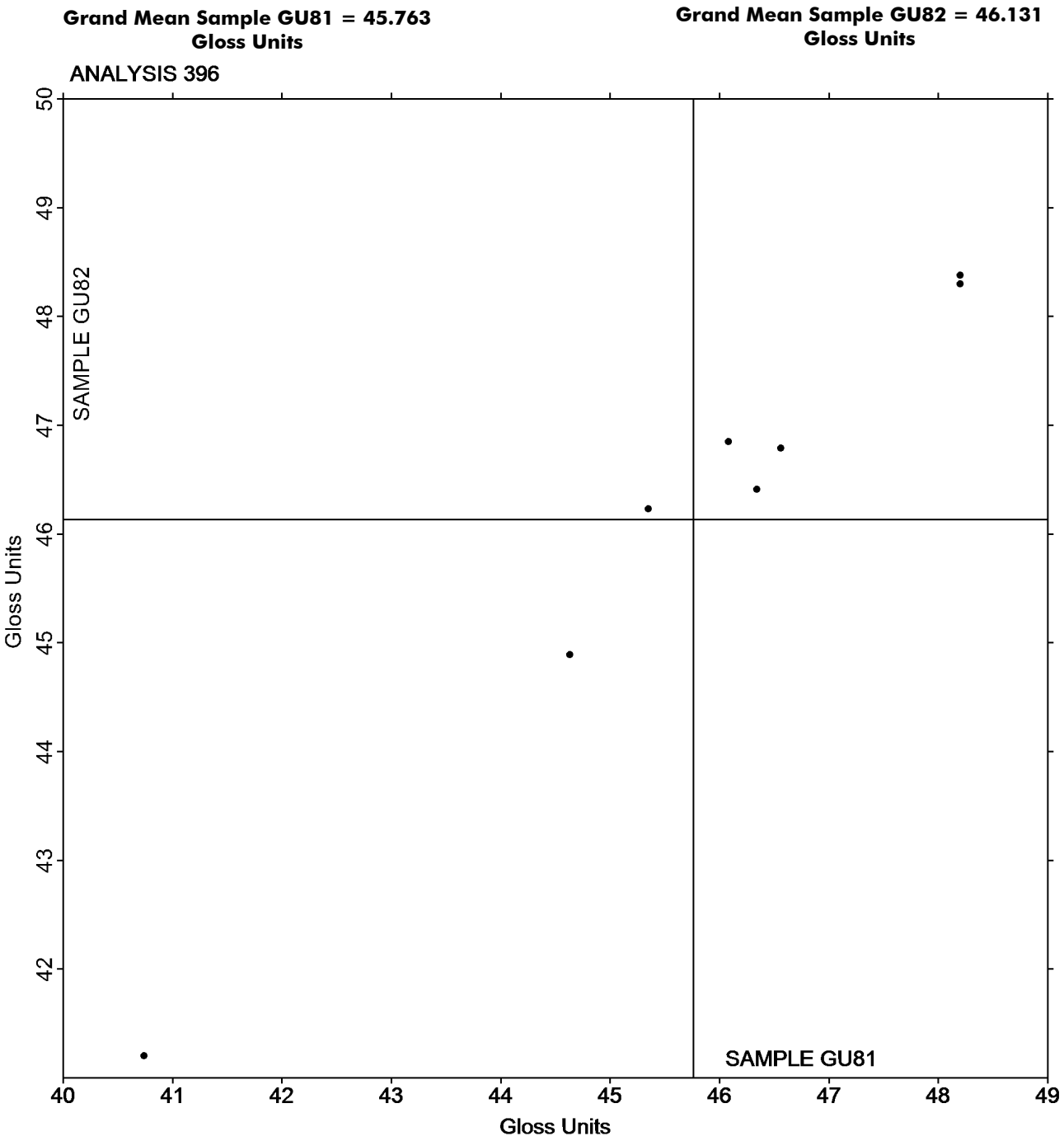

If fewer than 20 laboratories are included in an analysis, a control ellipse will not be drawn on the two-sample plot.

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Analysis 398

Grammage (Mass per Unit Area)

TAPPI Official Test Method T410

WebCode	Data Flag	Sample GW81 Lab Mean	Sample GW81 Diff from Grand Mean	Sample GW81 CPV	Sample GW82 Lab Mean	Sample GW82 Diff from Grand Mean	Sample GW82 CPV	Instr Code
47GXLV		89.01	-0.24	-0.55	103.4	-0.1	-0.14	ZZ
4JQETZ		88.92	-0.34	-0.76	104.0	0.6	0.71	ZZ
92DTUL		89.87	0.61	1.37	103.7	0.2	0.24	ZZ
9K28BV		89.11	-0.14	-0.32	103.0	-0.5	-0.62	ZZ
C23TQM		89.43	0.17	0.39	102.9	-0.5	-0.68	ZZ
FJRB7R		90.10	0.84	1.89	103.7	0.3	0.35	ZZ
GAZEJH		89.07	-0.19	-0.42	102.9	-0.6	-0.76	ZZ
J7BPAN		89.65	0.39	0.89	104.0	0.6	0.72	ZZ
JGRGWD		88.92	-0.34	-0.76	103.8	0.4	0.47	ZZ
ML8B3L		89.18	-0.08	-0.17	104.4	0.9	1.22	ZZ
NT9U2A		88.87	-0.39	-0.87	103.8	0.3	0.39	ZZ
PFRLD9		89.79	0.53	1.20	103.1	-0.4	-0.46	ZZ
QE3FXH	X	18.45	-70.81	-159.33	21.3	-82.2	-106.21	ZZ
QG9XVE		89.12	-0.14	-0.31	102.6	-0.9	-1.13	ZZ
QZWJEF		88.76	-0.50	-1.12	103.4	-0.1	-0.14	ZZ
RLUBA8		89.13	-0.12	-0.28	102.6	-0.9	-1.11	ZZ
UFKZR4		89.35	0.09	0.20	103.4	-0.1	-0.12	ZZ
UY9E9D		90.10	0.85	1.91	104.9	1.4	1.80	ZZ
WKNJ32		88.76	-0.50	-1.12	103.3	-0.2	-0.26	ZZ
XDXNJ9		88.71	-0.55	-1.24	102.3	-1.2	-1.56	ZZ
XFAZN6		89.10	-0.15	-0.34	104.1	0.6	0.79	ZZ
XU9A3Y		88.66	-0.59	-1.33	103.2	-0.3	-0.40	ZZ
YCL9P8		89.02	-0.23	-0.53	102.0	-1.5	-1.96	ZZ
YECE6X		89.66	0.40	0.91	105.2	1.8	2.29	ZZ
YLRTCA		89.85	0.59	1.34	103.8	0.3	0.36	ZZ

Summary Statistics	Sample GW81	Sample GW82
Grand Means	89.26 g/sq m	103.47 g/sq m
Stnd Dev Btwn Labs	0.44 g/sq m	0.77 g/sq m

Statistics based on 24 of 25 reporting participants.

Comments on Assigned Data Flags for Test #398

QE3FXH (X) - Extreme Data.

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Key to Instrument Codes Reported by Participants

ZZ Instruments No Longer Tracked

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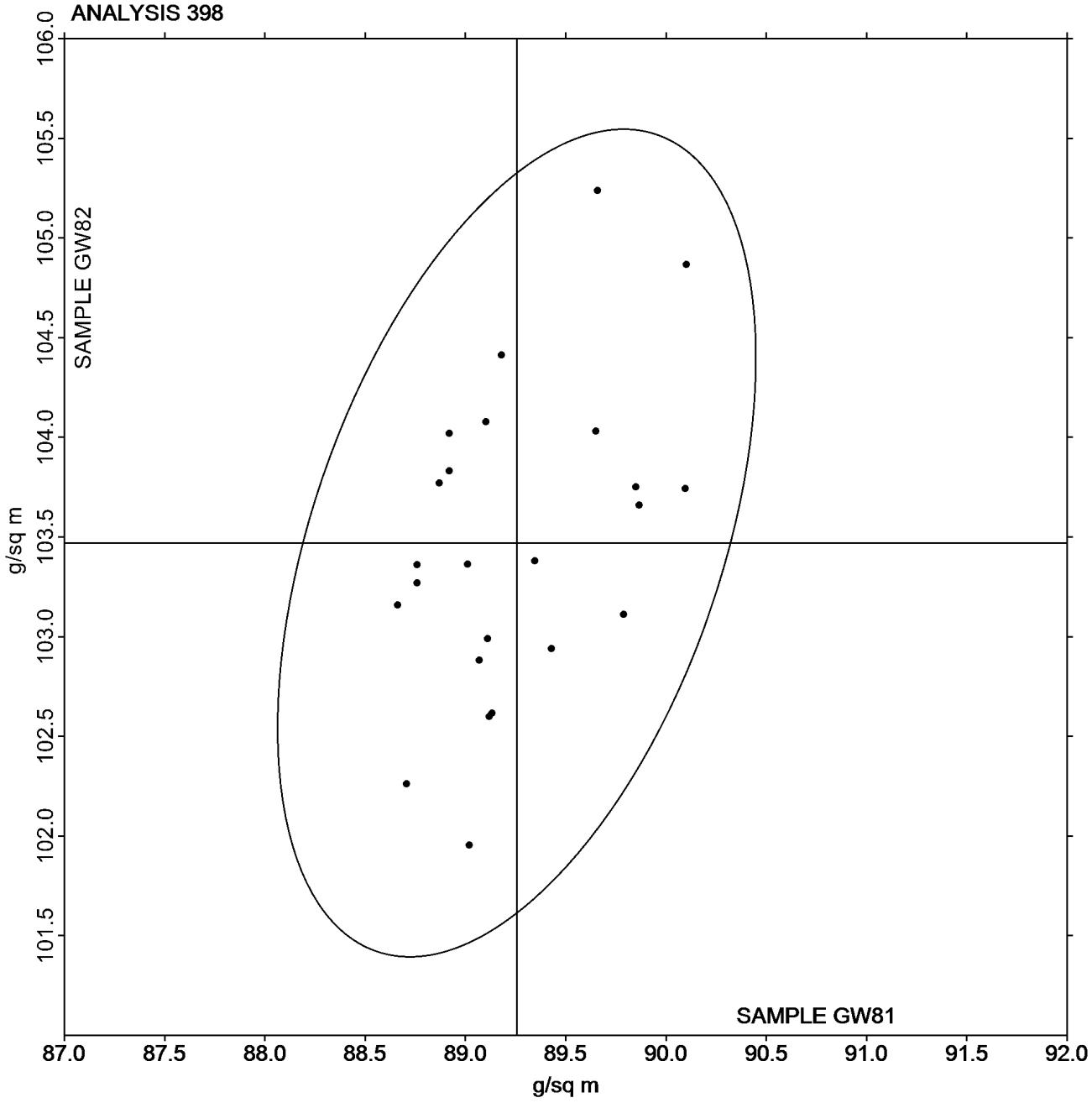
Grand Mean Sample GW81 = 89.256 g/sq m

Grand Mean Sample GW82 = 103.47 g/sq m



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Paper & Paperboard Interlaboratory Testing Program

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

WebCode	Data Flag	Sample GX81 Lab Mean	Sample GX81 Diff from Grand Mean	Sample GX81 CPV	Sample GX82 Lab Mean	Sample GX82 Diff from Grand Mean	Sample GX82 CPV	Instr Code
34KVH4		10.66	-2.97	-0.80	10.35	-2.30	-0.67	HE
3TL6WV		19.45	5.82	1.57	16.87	4.22	1.23	HE
4BVG2R		12.23	-1.40	-0.38	10.97	-1.68	-0.49	HE
6C4BY3		12.98	-0.65	-0.17	10.35	-2.30	-0.67	HE
6ETGET		19.51	5.88	1.59	19.18	6.53	1.91	HE
6TQNDV		12.50	-1.13	-0.30	12.25	-0.40	-0.12	HE
7BQZLW		12.40	-1.23	-0.33	12.16	-0.49	-0.14	HE
7MJGBX		14.64	1.01	0.27	13.37	0.72	0.21	HE
7NAMQN		11.87	-1.76	-0.47	11.26	-1.39	-0.40	HE
8P3VEX		17.14	3.51	0.95	15.64	2.99	0.87	XX
8UWXDQ		11.41	-2.22	-0.60	10.21	-2.44	-0.71	HE
92DTUL		20.57	6.94	1.87	19.98	7.33	2.14	HE
AU8EPV		14.19	0.56	0.15	13.63	0.98	0.29	HE
B7GB7J		11.79	-1.84	-0.50	12.92	0.27	0.08	HE
C23TQM		15.72	2.09	0.56	14.84	2.19	0.64	XX
D8KLER		17.20	3.57	0.96	17.60	4.95	1.45	HE
GAZEJH		15.11	1.48	0.40	13.68	1.03	0.30	HE
JXGJGM		12.48	-1.15	-0.31	10.91	-1.74	-0.51	HE
JZLAGB		9.19	-4.44	-1.20	7.65	-5.00	-1.46	HE
KEKDNM		11.00	-2.63	-0.71	10.90	-1.75	-0.51	HE
PT3YVA		12.02	-1.61	-0.43	11.96	-0.69	-0.20	HE
QW2PGE		9.64	-3.99	-1.08	8.94	-3.71	-1.08	HE
RHE3L8		5.29	-8.34	-2.25	5.06	-7.59	-2.21	XX
TLBQ3E		21.34	7.71	2.08	18.60	5.95	1.74	HE
UKC3YA	*	17.10	3.47	0.94	12.80	0.15	0.04	HE
VB7HC8		15.10	1.47	0.40	14.10	1.45	0.42	HE
VK6FV2	X	28.56	14.93	4.03	27.93	15.28	4.46	HE
WHYCMB		11.21	-2.42	-0.65	11.08	-1.57	-0.46	HE
WKNJ32		12.10	-1.53	-0.41	11.90	-0.75	-0.22	HE
WXPAN7		8.65	-4.98	-1.34	8.18	-4.47	-1.30	HE
YKZXP2		14.34	0.71	0.19	12.05	-0.60	-0.17	HE

Summary Statistics	Sample GX81	Sample GX82
Grand Means	13.63 Seconds	12.65 Seconds
Stnd Dev Btwn Labs	3.71 Seconds	3.43 Seconds

Statistics based on 30 of 31 reporting participants.

Comments on Assigned Data Flags for Test #399

VK6FV2 (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of both samples.

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Key to Instrument Codes Reported by Participants

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

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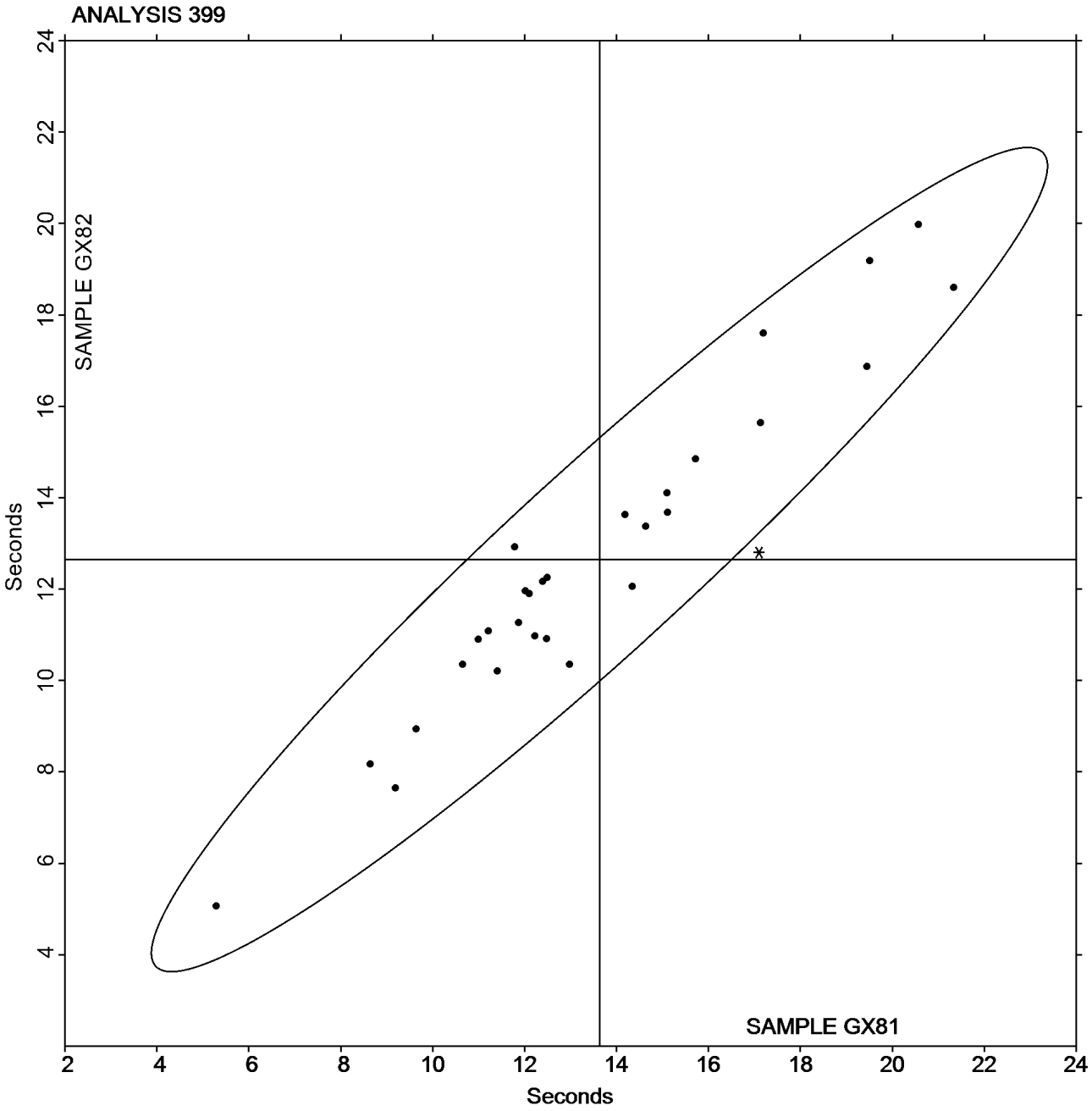
Grand Mean Sample GX81 = 13.628 Seconds

Grand Mean Sample GX82 = 12.646 Seconds



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-End of Report-

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