Collaborative Testing Services, Inc.

Paper & Paperboard Testing Program

Summary Report #286G-February 2017

The CTS Paper, Paperboard & Corrugated Fiberboard 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, wine, and color, 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.

Key for Web Summary Reports (Page 2 of 2)

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	F	Samples	Hunter L, a, b Color Values			Color Difference Values				Instr Code
			L	a	b	ΔL	Δa	Δb	ΔE	
2Q4GZ4		GA39	95.29	-0.74	3.73	-0.31	-0.02	0.04	0.31	EH
		GA40	94.98	-0.76	3.76					
49UECF	X	GA39	97.73	-0.64	1.01	-0.44	-0.04	0.04	0.44	NE
		GA40	97.29	-0.69	1.05					
4KQHGA		GA39	95.36	-0.79	3.64	-0.29	-0.02	0.09	0.31	TC
		GA40	95.06	-0.81	3.73					
8B9B9V		GA39	92.20	-0.26	2.54	0.22	-0.06	0.40	0.46	TS
		GA40	92.42	-0.32	2.94					
9GCEYU		GA39	93.25	-0.78	2.66	-0.18	0.21	0.23	0.36	HH
		GA40	93.07	-0.57	2.89					
BWFPGX		GA39	94.40	-0.02	3.24	-0.35	0.03	0.05	0.36	TS
		GA40	94.05	0.01	3.30					
EMWKXN		GA39	93.92	-0.45	3.39	-0.42	0.07	0.06	0.43	TS
		GA40	93.50	-0.38	3.45					
GYNTRA		GA39	95.12	-0.83	3.59	-0.12	0.02	0.22	0.25	LS
		GA40	95.00	-0.80	3.80					
H7GKD9		GA39	95.44	-0.81	3.55	-0.36	0.13	0.22	0.44	EH
		GA40	95.08	-0.68	3.77					
KELCWN		GA39	94.23	-0.63	3.75	-0.34	-0.03	0.07	0.34	HH
		GA40	93.89	-0.65	3.82					
KXDDQ6		GA39	93.16	-0.10	3.26	-0.27	0.02	0.02	0.27	TS
		GA40	92.89	-0.08	3.28					
LV7HHL		GA39	93.21	0.00	3.09	-0.43	0.05	0.11	0.45	TS
		GA40	92.78	0.05	3.20					
M4ECCE		GA39	93.73	-0.64	3.28	-0.21	0.02	0.04	0.22	HH
		GA40	93.52	-0.62	3.32					
PRX7EH		GA39	93.10	-0.18	3.13	-0.32	0.02	0.08	0.33	TM
		GA40	92.78	-0.17	3.20					
TALQKC		GA39	94.03	-0.47	3.50	-0.36	0.00	0.04	0.36	LA
		GA40	93.67	-0.47	3.53					
TG8LLG		GA39	95.00	-0.67	3.44	-0.35	-0.04	0.03	0.35	HE
		GA40	94.65	-0.71	3.48					

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	F	Samples	Hunter L, a, b Color Values L	a	b	Color Difference Values ΔL	Δa	Δb	ΔE	Instr Code
VFMLHH		GA39	95.32	-0.82	3.62	-0.85	-0.02	0.09	0.85 X	LS
		GA40	94.47	-0.83	3.70					
WAU2R8		GA39	96.67	-0.63	2.74	-0.18	0.06	0.09	0.21	XS
		GA40	96.49	-0.58	2.83					
XHHE7W		GA39	94.20	-0.79	3.62	-0.38	-0.01	0.02	0.38	TC
		GA40	93.82	-0.80	3.63					
YNLJVV		GA39	94.30	-1.09	3.58	-0.16	0.08	0.16	0.24	HG
		GA40	94.13	-1.01	3.74					
ZYH7XC		GA39	94.46	-0.66	3.48	-0.34	0.01	0.03	0.35	MK
		GA40	94.11	-0.66	3.51					

Summary Statistics

Grand Means							
GA39	94.481	-0.571	3.341	-0.301	0.026	0.104	0.364
GA40	94.174	-0.549	3.445				
Stnd Dev Btwn Labs							
GA39	1.271	0.298	0.353	0.194	0.062	0.097	0.137
GA40	1.216	0.296	0.315				

Statistics based on 20 of 21 reporting participants

Comments on Assigned Data Flags for Test #350

49UECF (X) - Low b values for both samples. Inconsistent within a values for sample GA40.

Key to Instrument Codes Reported by Participants

EH	Datacolor Elrepho SF450	HE	Hunter LabScan
HG	Hunter ColorQUEST	HH	Hunter D25DP - 9000
LA	L & W Elrepho AL300	LS	L & W Elrepho SE 070
MK	Macbeth Color-Eye 7000 Spectrophotometer	NE	Minolta CM-3500d Spectrophotometer
TC	Technidyne Color Touch Series	TM	Technidyne Technibrite Micro TB-1C
TS	Technidyne Brightimeter Micro S-5	XS	X-Rite 938 Spectrodensitometer

Paper & Paperboard Interlaboratory Testing Program

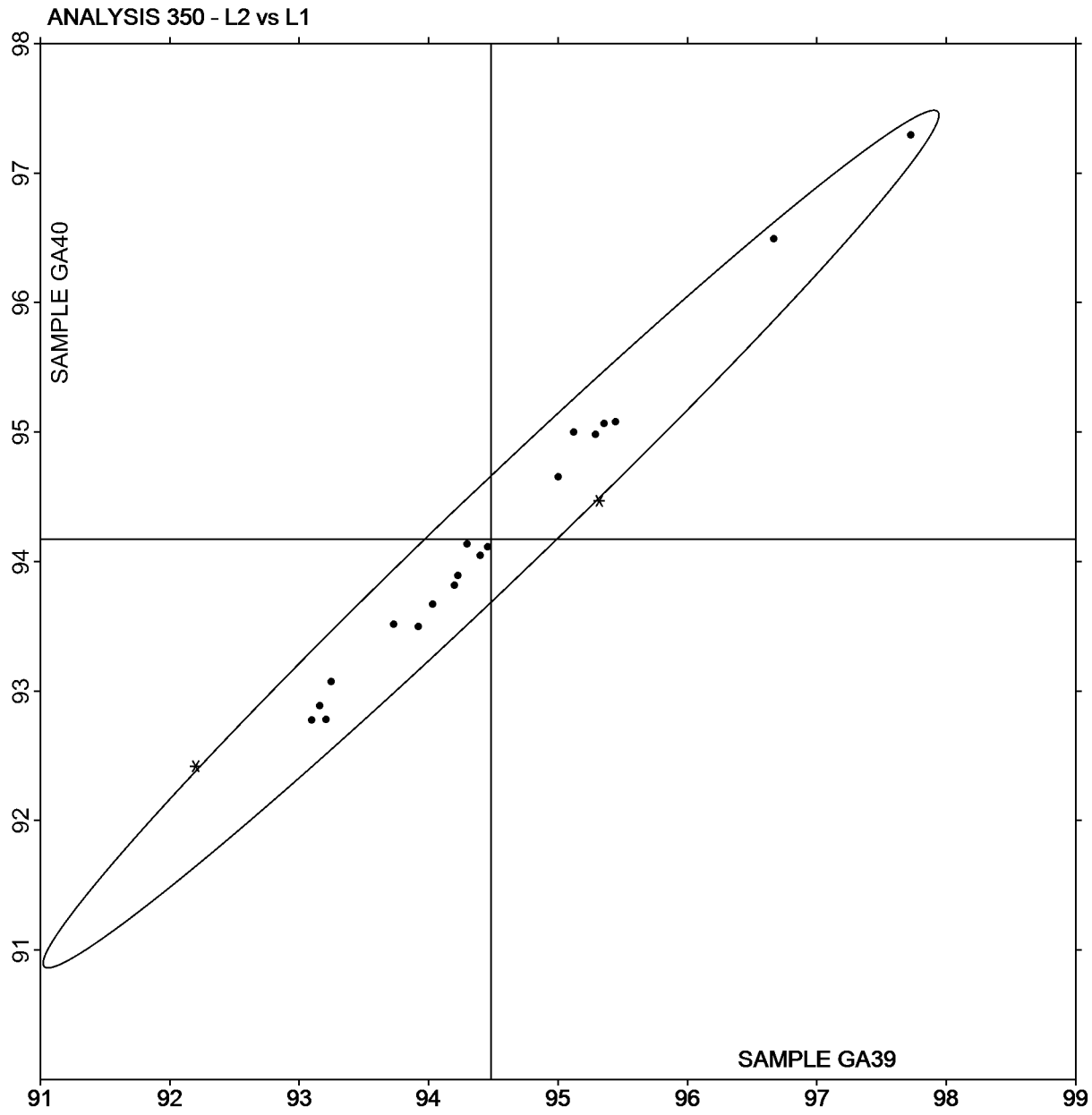
Analysis 350

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

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

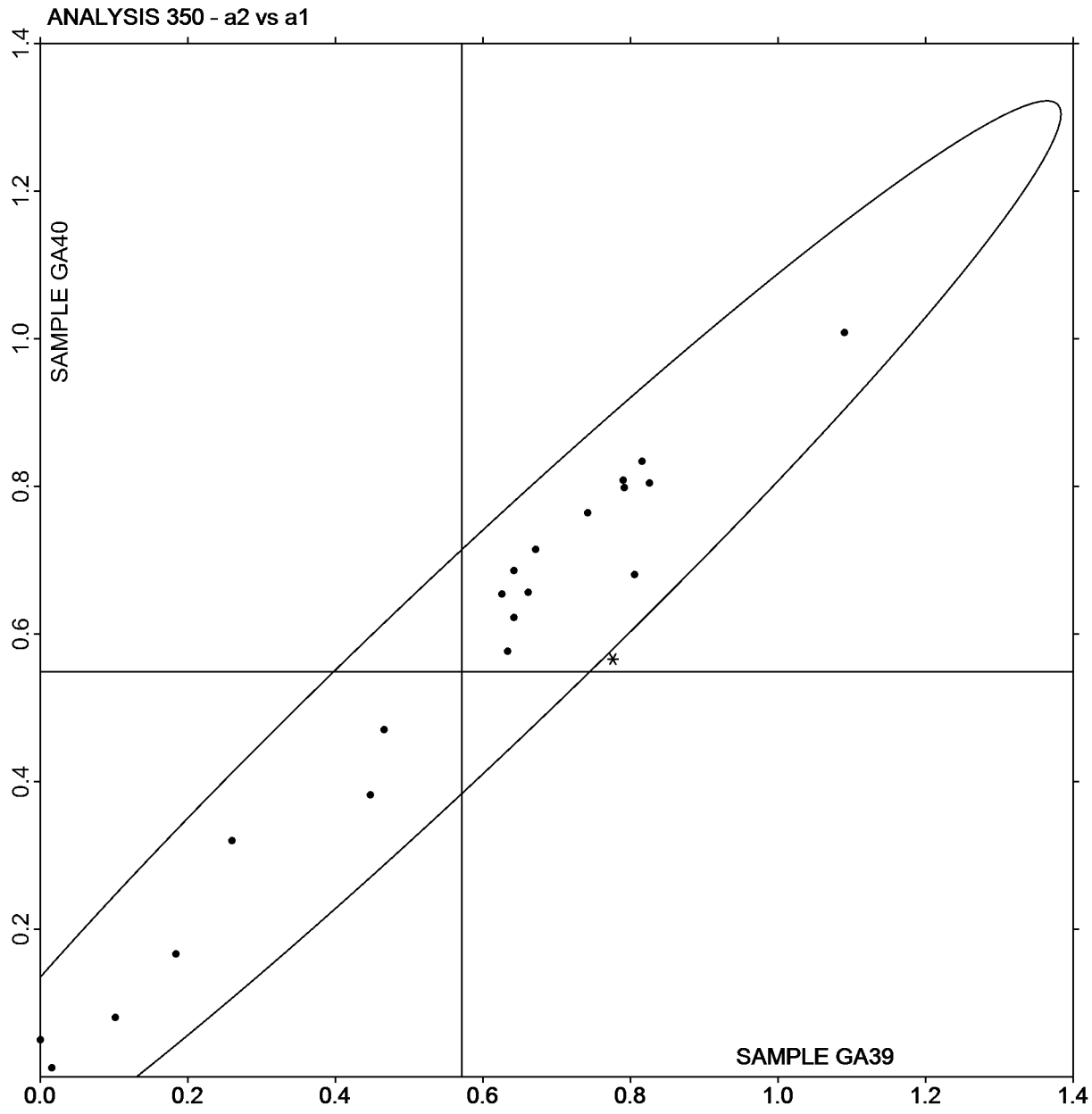
Web Code	F	Samples	Hunter L, a, b Color Values L	a	b	Color Difference Values ΔL	Δa	Δb	ΔE	Instr Code

Plot of L values GA40 v L values GA39

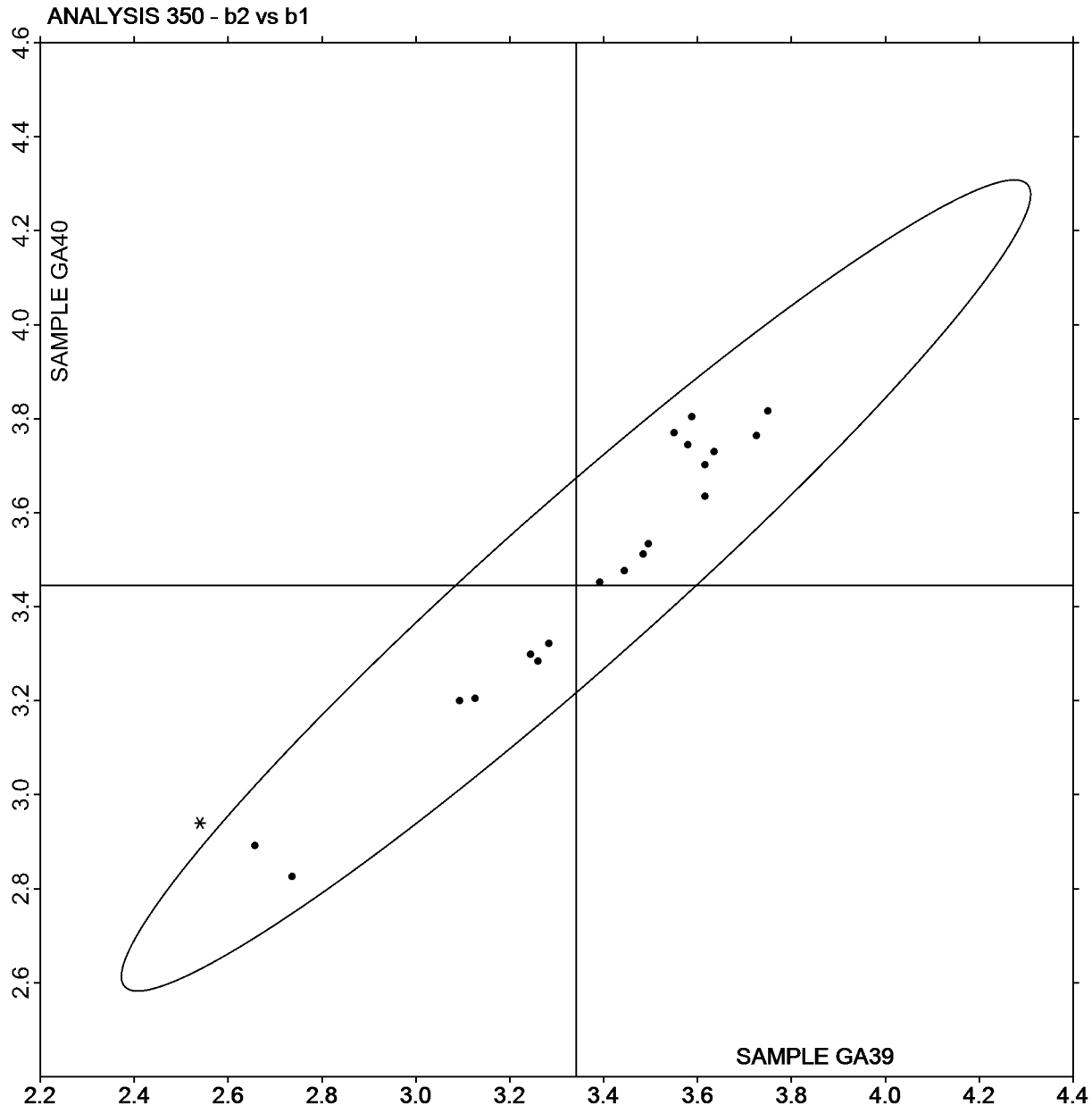


Web Code	F	Samples	Hunter L, a, b Color Values L	a	b	Color Difference Values ΔL	Δa	Δb	ΔE	Instr Code

Plot of a values GA40 v a values GA39



Plot of b values GA40 v b values GA39



2FK6NQ	GA39	93.93	-0.58	3.46	-0.24	-0.02	0.20	0.31	XM
	GA40	93.69	-0.60	3.65					
346FMZ	GA39	94.72	-0.63	3.46	-0.33	-0.04	0.03	0.33	HE
	GA40	94.40	-0.67	3.48					
7EXXQY	GA39	95.54	-0.61	3.69	-0.32	-0.03	0.02	0.32	HT
	GA40	95.22	-0.64	3.71					
8J2HR2	GA39	95.66	-0.55	3.85	-0.28	-0.05	0.02	0.28	NF
	GA40	95.38	-0.60	3.87					
9YUDYL	GA39	96.95	-0.45	3.06	-0.20	-0.02	0.13	0.24	XP
	GA40	96.76	-0.47	3.19					
AGA76Z	GA39	95.27	-0.67	3.65	-0.28	-0.02	0.05	0.28	EH
	GA40	94.99	-0.70	3.70					
CRJHBU	GA39	95.50	-0.71	3.83	-0.37	-0.04	0.10	0.39	TC
	GA40	95.13	-0.75	3.93					
CYFHLF	GA39	94.91	-0.53	3.36	-0.30	-0.03	0.02	0.31	HV
	GA40	94.61	-0.56	3.38					
D2L3AF	GA39	95.52	-0.63	3.86	-0.29	-0.03	0.02	0.29	HT
	GA40	95.23	-0.66	3.88					
F2B9KQ	GA39	95.24	-0.64	3.75	0.00	-0.03	0.08	0.09 X	TC
	GA40	95.24	-0.67	3.84					
GYNTRA	GA39	95.30	-0.79	3.70	-0.16	-0.02	0.08	0.18	LS
	GA40	95.14	-0.82	3.78					
J86EP4	GA39	95.45	-0.60	4.01	-0.32	-0.02	0.05	0.32	NG
	GA40	95.13	-0.62	4.06					
MG3FF6	GA39	94.05	-0.64	3.55	-0.37	-0.02	0.05	0.37	TC
	GA40	93.68	-0.66	3.60					
MLJLEZ	GA39	95.69	-0.64	3.71	-0.29	-0.02	0.11	0.31	XP
	GA40	95.41	-0.66	3.82					
MTJ3TC	GA39	95.61	-0.68	3.42	-0.21	-0.03	0.02	0.21	XX
	GA40	95.40	-0.71	3.44					
RVMRVU	GA39	95.54	-0.58	3.87	-0.26	-0.04	0.11	0.29	NG
	GA40	95.28	-0.62	3.98					
TG8LLG	GA39	94.95	-0.67	3.40	-0.37	-0.04	0.08	0.39	HE
	GA40	94.57	-0.71	3.48					
TLECPM	GA39	94.52	-0.69	3.53	-0.32	-0.01	0.04	0.32	HT
	GA40	94.20	-0.70	3.57					

YUEKYV	GA39	95.40	-0.70	3.57	-0.30	0.00	0.13	0.33	EF
	GA40	95.10	-0.70	3.70					
ZC6DXX	GA39	94.12	-0.63	3.52	-0.37	-0.02	0.04	0.37	TC
	GA40	93.75	-0.65	3.56					
ZMK6L9	GA39	95.54	-0.58	4.01	-0.25	-0.02	0.02	0.25	NG
	GA40	95.29	-0.60	4.03					

Summary Statistics

Grand Means							
GA39	95.210	-0.629	3.631	-0.277	-0.027	0.066	0.294
GA40	94.933	-0.655	3.697				
Stnd Dev Btwn Labs							
GA39	0.682	0.072	0.236	0.086	0.011	0.049	0.071
GA40	0.715	0.071	0.229				

Statistics based on 21 of 21 reporting participants

Key to Instrument Codes Reported by Participants

EF	Datacolor Elrepho 3000	EH	Datacolor Elrepho SF450
HE	Hunter LabScan	HT	Hunter UltraScan Vis
HV	Hunter Ultrascan XE	LS	L & W Elrepho SE 070
NF	Minolta CM-3600d Spectrophotometer	NG	Minolta CM-3700d Spectrophotometer
TC	Technidyne Color Touch Series	XM	X-Rite CA-22
XP	X-Rite Spectrophotometer DTP	XX	Instrument make/model not specified by lab

Paper & Paperboard Interlaboratory Testing Program

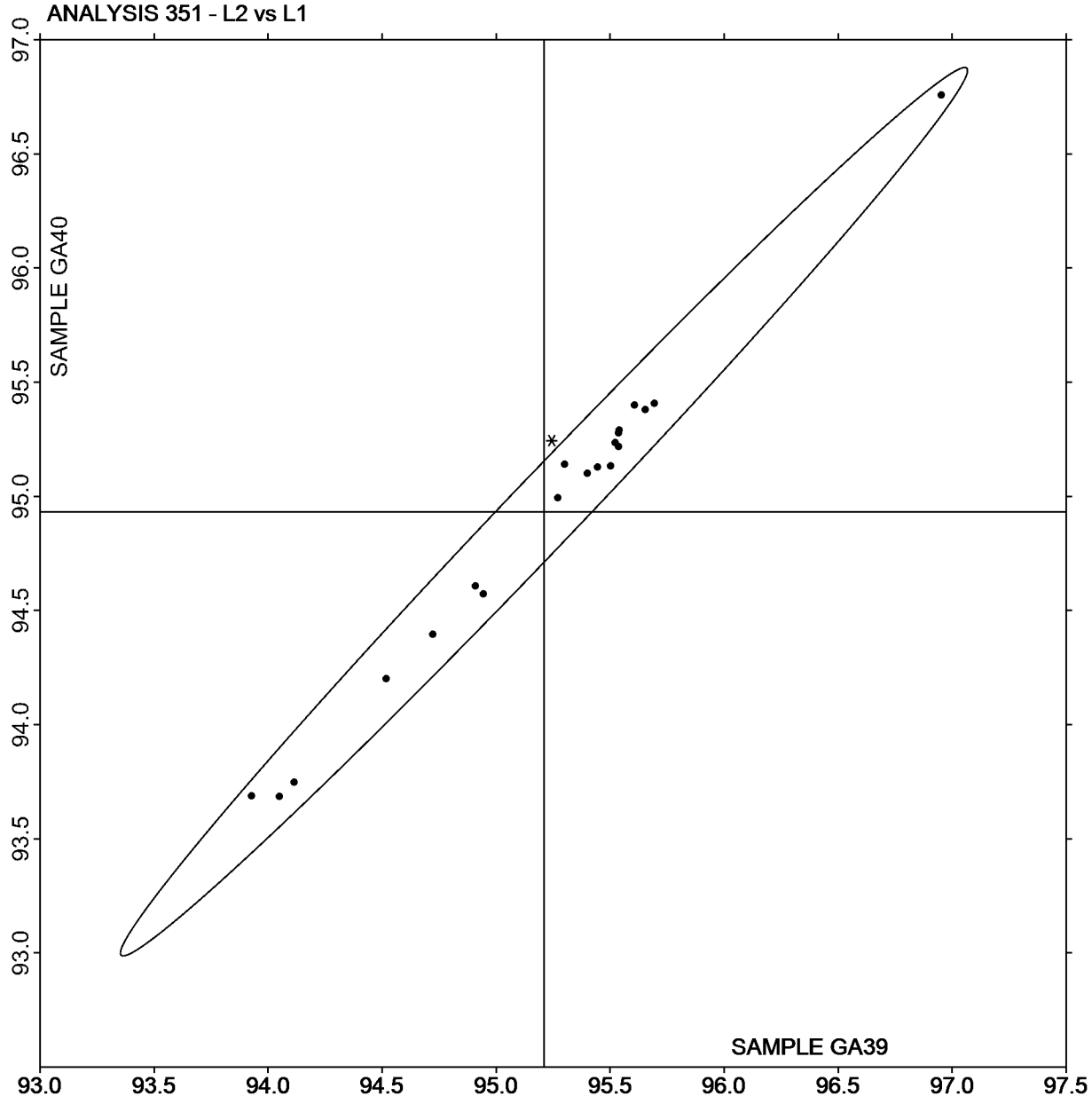
Analysis 351

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

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

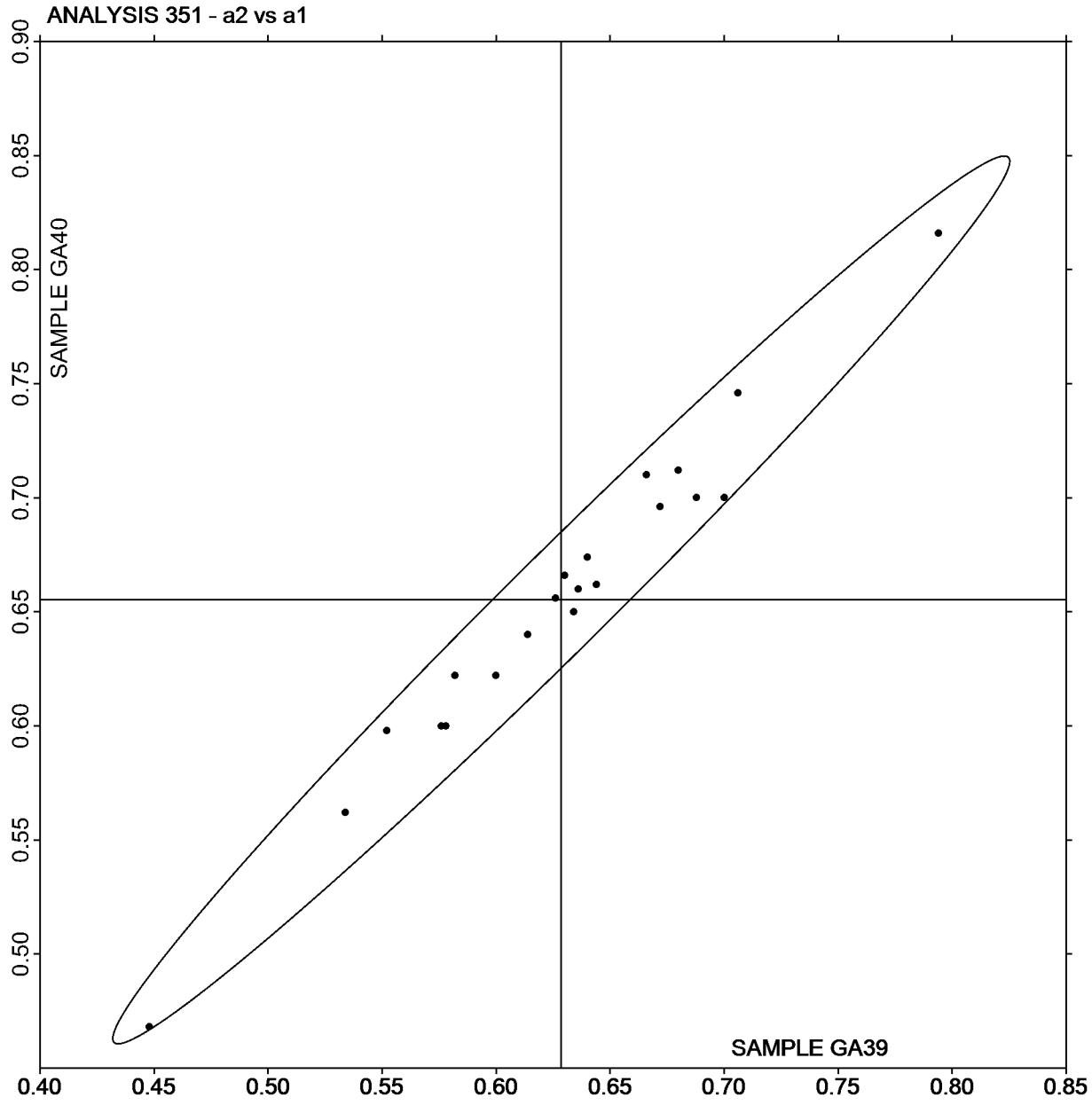
Web Code	F	Samples	Hunter L, a, b Color Values L	a	b	Color Difference Values ΔL	Δa	Δb	ΔE	Instr Code

Plot of L values GA40 v L values GA39

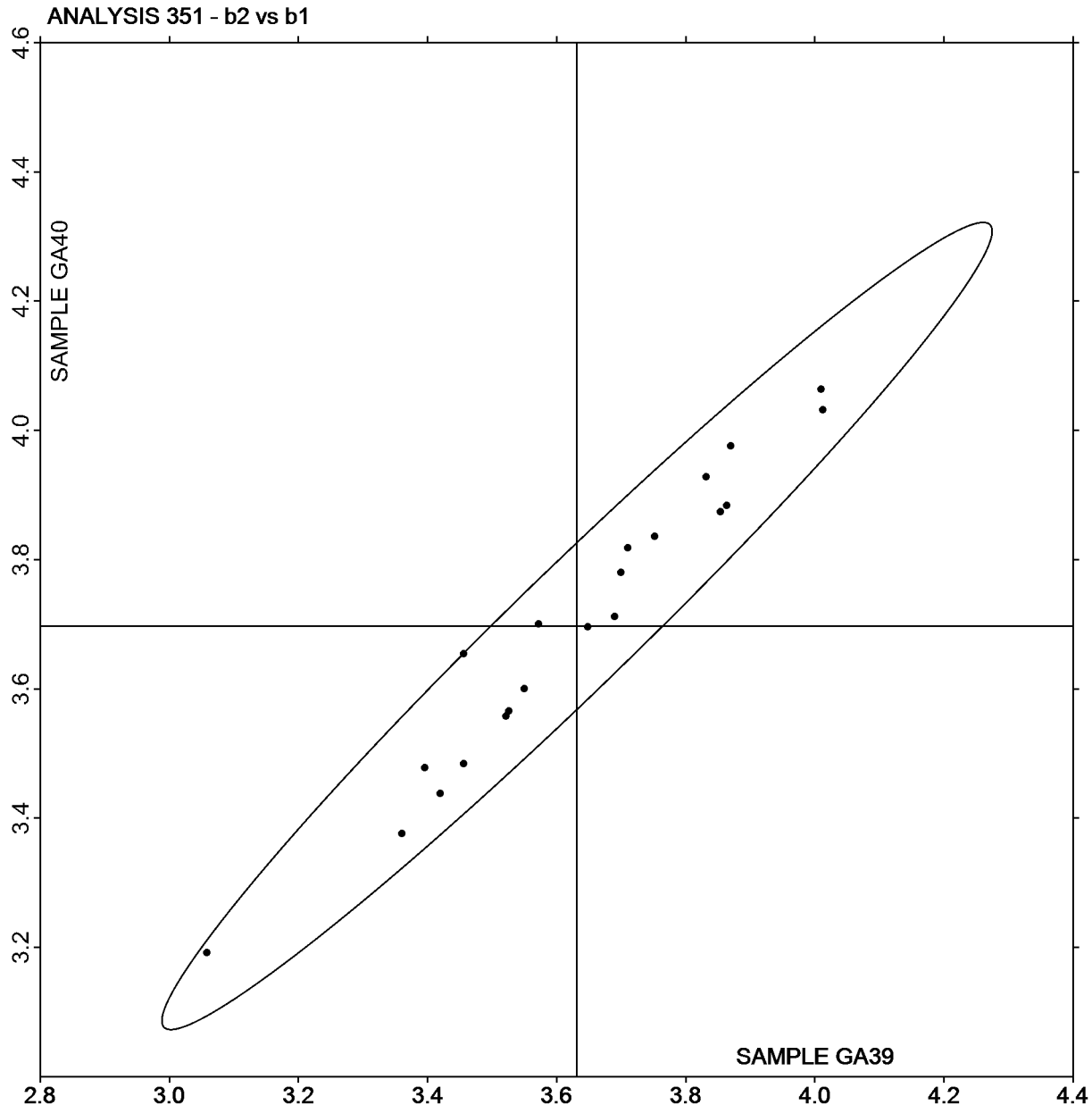


Web Code	F	Samples	Hunter L, a, b Color Values L	a	b	Color Difference Values ΔL	Δa	Δb	ΔE	Instr Code

Plot of a values GA40 v a values GA39



Plot of b values GA40 v b values GA39



Paper & Paperboard Interlaboratory Testing Program
Analysis 360
Thickness (Caliper), Printing papers

WebCode	Data Flag	Sample GV39 Lab Mean	Sample GV39 Diff from Grand Mean	Sample GV39 CPV	Sample GV40 Lab Mean	Sample GV40 Diff from Grand Mean	Sample GV40 CPV	Instr Code
2AVPVD		5.068	0.088	1.12	4.662	0.040	0.54	LW
2FK6NQ		4.909	-0.071	-0.90	4.539	-0.083	-1.12	LW
346FMZ		5.074	0.094	1.19	4.727	0.105	1.42	TM
38LZ8V		4.924	-0.056	-0.71	4.570	-0.052	-0.71	TA
3T2K6V	*	4.944	-0.036	-0.46	4.469	-0.153	-2.08	EM
4KQHGA		4.979	-0.001	-0.01	4.597	-0.025	-0.34	LA
4MDXAQ		5.079	0.099	1.26	4.700	0.078	1.06	TM
6GM6BV	X	22.974	17.994	229.32	23.967	19.345	262.39	TM
6N2VWM		4.880	-0.100	-1.27	4.520	-0.102	-1.39	XX
7EXXQY		4.927	-0.053	-0.68	4.624	0.002	0.03	EM
8FKY6L		4.810	-0.170	-2.17	4.480	-0.142	-1.93	TM
8J2HR2		5.100	0.120	1.52	4.732	0.110	1.49	TM
9YUDYL		4.870	-0.110	-1.40	4.500	-0.122	-1.66	TM
B784HH		4.989	0.009	0.11	4.642	0.020	0.27	LW
BRLTTR		5.017	0.037	0.47	4.649	0.027	0.36	LW
BWFPGX		4.975	-0.005	-0.06	4.662	0.040	0.54	EM
C24UM7		5.008	0.028	0.36	4.632	0.010	0.14	LW
CRJHBU		4.923	-0.057	-0.73	4.553	-0.069	-0.93	LW
CYFHLF		4.934	-0.046	-0.59	4.607	-0.015	-0.21	TA
D2L3AF		5.060	0.080	1.02	4.709	0.087	1.18	EM
DBCLRV		4.993	0.012	0.16	4.682	0.059	0.81	EM
DTP9BH	*	4.764	-0.216	-2.75	4.505	-0.117	-1.59	TA
EMWKXN		4.977	-0.003	-0.04	4.580	-0.042	-0.57	LA
ETL3CY		4.870	-0.110	-1.40	4.520	-0.102	-1.39	TM
FA93F4		4.960	-0.020	-0.26	4.629	0.007	0.09	PP
FAPWHY		5.040	0.060	0.76	4.738	0.116	1.57	FR
FV88JW	*	4.884	-0.096	-1.22	4.678	0.056	0.76	TM
G8XFJB		5.073	0.093	1.19	4.590	-0.032	-0.44	LW
GEFQT6		5.023	0.043	0.55	4.655	0.033	0.45	EM
H7GKD9		4.984	0.004	0.05	4.668	0.046	0.62	EM
J2LBKM		5.014	0.034	0.43	4.658	0.036	0.49	TM
J86EP4		4.920	-0.060	-0.76	4.569	-0.053	-0.72	XX
KUXNPG		4.978	-0.002	-0.02	4.663	0.041	0.55	LW
KYW6ZP		4.904	-0.076	-0.97	4.533	-0.089	-1.21	LA
LV7HHL		4.907	-0.073	-0.93	4.482	-0.140	-1.90	TM
MLWD8G	*	5.110	0.130	1.65	4.607	-0.015	-0.20	TM
MTJ3TC		4.949	-0.031	-0.40	4.578	-0.044	-0.60	LW
MY4ZHY		4.946	-0.034	-0.43	4.680	0.058	0.78	EM
N3YCTP	X	5.262	0.282	3.60	4.878	0.256	3.47	LW
NA3DV6		4.900	-0.080	-1.02	4.600	-0.022	-0.30	LW
NEVHLN		4.987	0.007	0.09	4.628	0.006	0.08	LW

Paper & Paperboard Interlaboratory Testing Program
Analysis 360
Thickness (Caliper), Printing papers

WebCode	Data Flag	Sample GV39 Lab Mean	Sample GV39 Diff from Grand Mean	Sample GV39 CPV	Sample GV40 Lab Mean	Sample GV40 Diff from Grand Mean	Sample GV40 CPV	Instr Code
P7X8T4		5.088	0.108	1.38	4.736	0.114	1.54	TA
PRX7EH		4.984	0.004	0.05	4.610	-0.012	-0.16	TA
QPQ9ML		4.858	-0.122	-1.55	4.549	-0.073	-0.99	LW
R6U6EJ		5.000	0.020	0.25	4.673	0.051	0.69	MS
RVMRVU		5.070	0.090	1.15	4.648	0.026	0.35	EM
T8VR8E		5.018	0.038	0.48	4.570	-0.052	-0.71	PP
TALQKC		5.056	0.076	0.97	4.680	0.057	0.78	LA
TDK8UZ		4.949	-0.031	-0.40	4.637	0.015	0.20	TA
VFMLHH		4.998	0.018	0.23	4.633	0.011	0.15	LW
VJ674X		5.091	0.111	1.41	4.724	0.101	1.38	LW
WAU2R8		4.960	-0.020	-0.26	4.660	0.038	0.51	TM
WGAMXP		5.005	0.025	0.32	4.580	-0.042	-0.57	XX
XALGG9		5.109	0.129	1.64	4.740	0.118	1.60	LW
XFCUHW		5.023	0.043	0.55	4.677	0.055	0.75	LW
XR4JBB		4.927	-0.053	-0.68	4.616	-0.006	-0.08	EM
Y3LHJR		4.978	-0.002	-0.03	4.675	0.053	0.72	EM
YHXXLN		5.015	0.035	0.45	4.640	0.018	0.24	LA
ZAZPH9		4.912	-0.068	-0.87	4.554	-0.068	-0.92	EM
ZC6DXX		5.128	0.148	1.89	4.677	0.055	0.74	TA
ZMK6L9		4.991	0.010	0.13	4.510	-0.112	-1.52	LW
ZMNRYF		4.881	-0.099	-1.26	4.561	-0.061	-0.82	LW
ZYH7XC		5.089	0.109	1.39	4.782	0.160	2.17	PP

Summary Statistics

	Sample GV39	Sample GV40
Grand Means	4.9800 mils	4.6221 mils
SD Btwn Labs	0.0785 mils	0.0737 mils

Statistics based on 61 of 63 reporting participants

Comments on Assigned Data Flags for Test #360

6GM6BV (X) - Extreme Data.

N3YCTP (X) - Data for both samples are high. Possible Systematic Error.

ZMNRYF - Data appear to be reported as micrometers, not mils as indicated on datasheet. Units corrected by CTS.

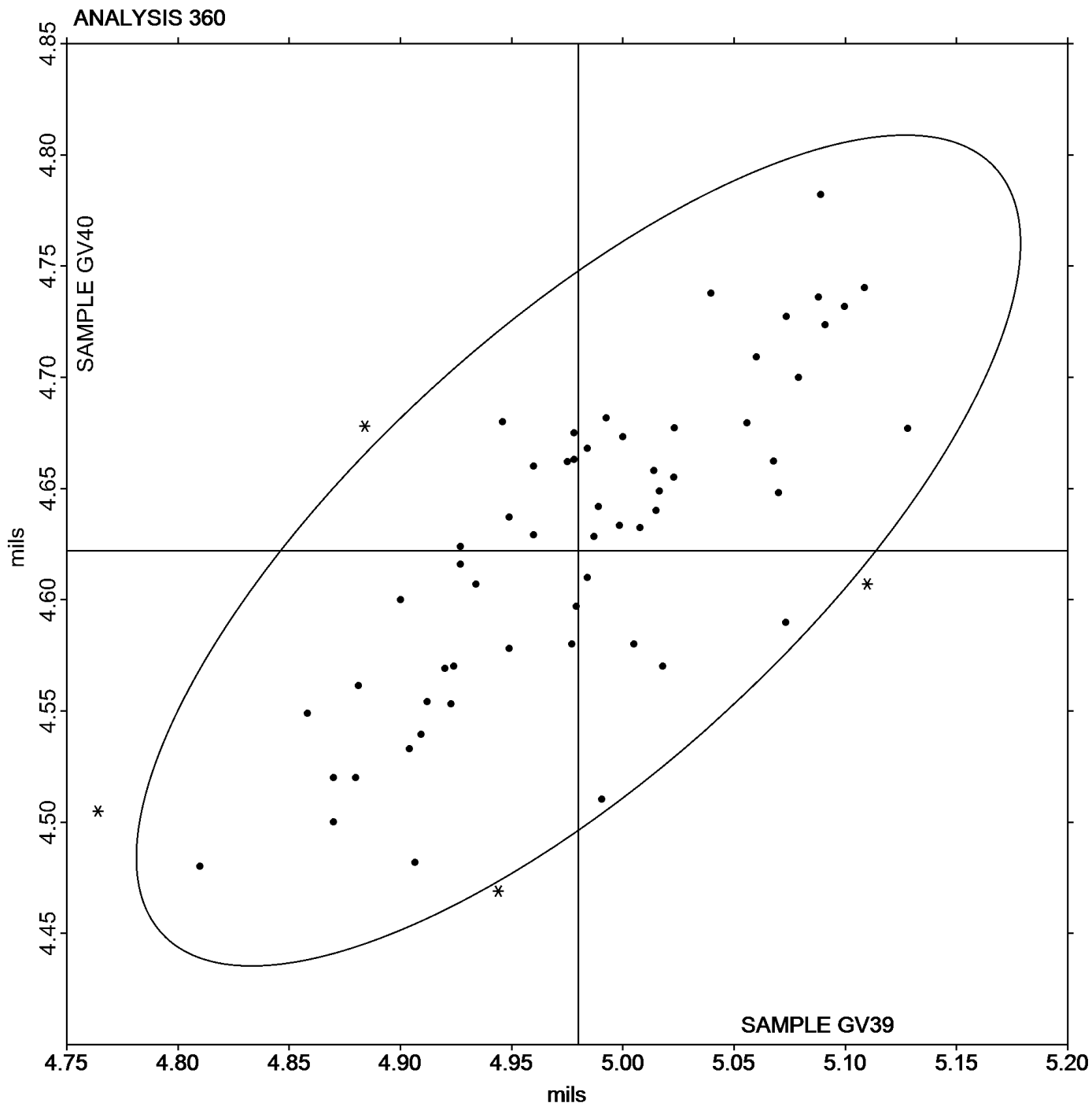
Key to Instrument Codes Reported by Participants

EM	Emveco	FR	Frank Instruments
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		

Paper & Paperboard Interlaboratory Testing Program
Analysis 360
Thickness (Caliper), Printing papers

Grand Mean Sample **GV39** = 4.9800 mils

Grand Mean Sample **GV40** = 4.6221 mils



Paper & Paperboard Interlaboratory Testing Program
Analysis 361
Thickness (Caliper), Packaging papers

WebCode	Data Flag	Sample GY39 Lab Mean	Sample GY39 Diff from Grand Mean	Sample GY39 CPV	Sample GY40 Lab Mean	Sample GY40 Diff from Grand Mean	Sample GY40 CPV	Instr Code
8B9B9V		14.01	-0.09	-0.52	9.354	-0.107	-0.71	EM
9GCEYU		14.25	0.15	0.88	9.580	0.119	0.79	EM
AGA76Z		14.43	0.33	1.93	9.689	0.228	1.52	EM
C24UM7		14.10	0.01	0.04	9.485	0.024	0.16	LW
CAK9PC		14.00	-0.10	-0.56	9.309	-0.152	-1.01	LW
CWCM4X		14.39	0.30	1.73	9.724	0.263	1.75	LA
D8P7YE		13.85	-0.25	-1.43	9.230	-0.231	-1.54	XX
DAT2HG		14.00	-0.10	-0.59	9.408	-0.053	-0.35	PP
DBCLRV		14.22	0.12	0.71	9.488	0.027	0.18	EM
DTP9BH		14.08	-0.02	-0.11	9.310	-0.151	-1.00	TA
ETL3CY		13.92	-0.18	-1.02	9.370	-0.091	-0.60	TM
G8XFJB		14.00	-0.10	-0.58	9.291	-0.170	-1.13	LW
GYNTRA		14.08	-0.01	-0.07	9.402	-0.059	-0.39	TM
J2LBKM		14.29	0.20	1.16	9.712	0.251	1.67	TM
JJK7GJ		14.30	0.21	1.20	9.610	0.149	0.99	TM
KELCWN		13.85	-0.24	-1.42	9.345	-0.116	-0.77	EM
M4ECCE		14.19	0.09	0.55	9.602	0.141	0.94	EM
MG3FF6		14.22	0.12	0.73	9.525	0.064	0.43	EM
MJRPRR		13.73	-0.36	-2.11	9.160	-0.301	-2.00	TM
NZWCUD		14.11	0.01	0.06	9.465	0.004	0.03	TA
QCFV4Z		14.17	0.07	0.42	9.537	0.076	0.51	XX
QNQDV3		13.92	-0.18	-1.02	9.350	-0.111	-0.74	TM
RRAPBK		13.92	-0.18	-1.02	9.263	-0.198	-1.31	TM
RUFCM4		14.16	0.07	0.39	9.552	0.091	0.61	PP
T6TPLJ		14.08	-0.02	-0.09	9.537	0.076	0.51	TM
TALQKC		14.24	0.15	0.86	9.570	0.110	0.73	LA
TG8LLG		13.94	-0.16	-0.94	9.415	-0.046	-0.30	EM
VKW3Q7		13.78	-0.32	-1.84	9.275	-0.186	-1.24	TA
VRT32R		14.03	-0.07	-0.39	9.310	-0.151	-1.01	LA
WQZ7EJ		14.09	-0.01	-0.03	9.380	-0.081	-0.54	TA
XALGG9		14.31	0.22	1.28	9.686	0.225	1.49	XX
XWLJTC		14.17	0.07	0.43	9.590	0.129	0.86	LA
YFBJXD		14.17	0.08	0.45	9.563	0.102	0.68	LW
ZVG39B		14.25	0.16	0.92	9.583	0.122	0.81	TM

Summary Statistics

	Sample GY39	Sample GY40
Grand Means	14.096 mils	9.4608 mils
SD Btwn Labs	0.171 mils	0.1503 mils

Statistics based on 34 of 34 reporting participants

Analysis Notes:

D8P7YE - Data appear to be reported as mils, not micrometers as indicated on datasheet. Units corrected by CTS.

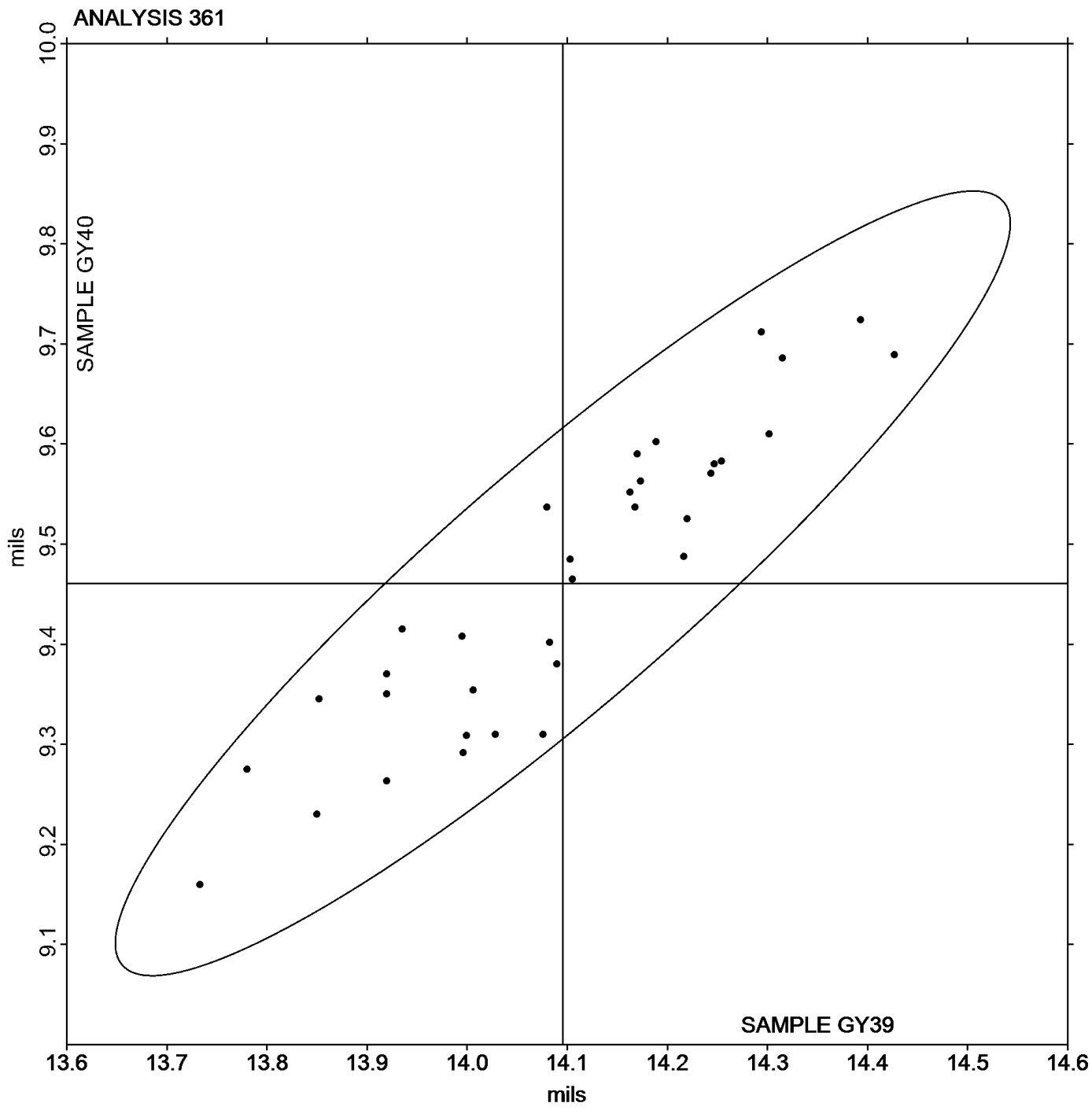
Key to Instrument Codes Reported by Participants

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		

Paper & Paperboard Interlaboratory Testing Program
Analysis 361
Thickness (Caliper), Packaging papers

Grand Mean Sample **GY39** = 14.096 mils

Grand Mean Sample **GY40** = 9.4608 mils



Paper & Paperboard Interlaboratory Testing Program
Analysis 364
Coefficient of Static Friction - Horizontal Plane Method - Printing Papers

WebCode	Data Flag	Sample GD39 Lab Mean	Sample GD39 Diff from Grand Mean	Sample GD39 CPV	Sample GD40 Lab Mean	Sample GD40 Diff from Grand Mean	Sample GD40 CPV	Instr Code
BWFPGX		0.6618	0.0855	1.42	0.5658	0.0309	0.90	XX
JWTAH8		0.5296	-0.0467	-0.77	0.5318	-0.0031	-0.09	IT
VRT32R		0.5130	-0.0633	-1.05	0.4802	-0.0547	-1.59	TA
WAU2R8	X	0.3076	-0.2687	-4.46	0.3574	-0.1775	-5.15	XX
WLPFQ4		0.6078	0.0315	0.52	0.5630	0.0281	0.82	TA
ZMK6L9		0.5694	-0.0069	-0.11	0.5336	-0.0013	-0.04	TM

Summary Statistics

	Sample GD39	Sample GD40
Grand Means	0.57632 COF	0.53488 COF
SD Btwn Labs	0.06029 COF	0.03445 COF

Statistics based on 5 of 6 reporting participants

Comments on Assigned Data Flags for Test #364

WAU2R8 (X) - Data for both samples are low.

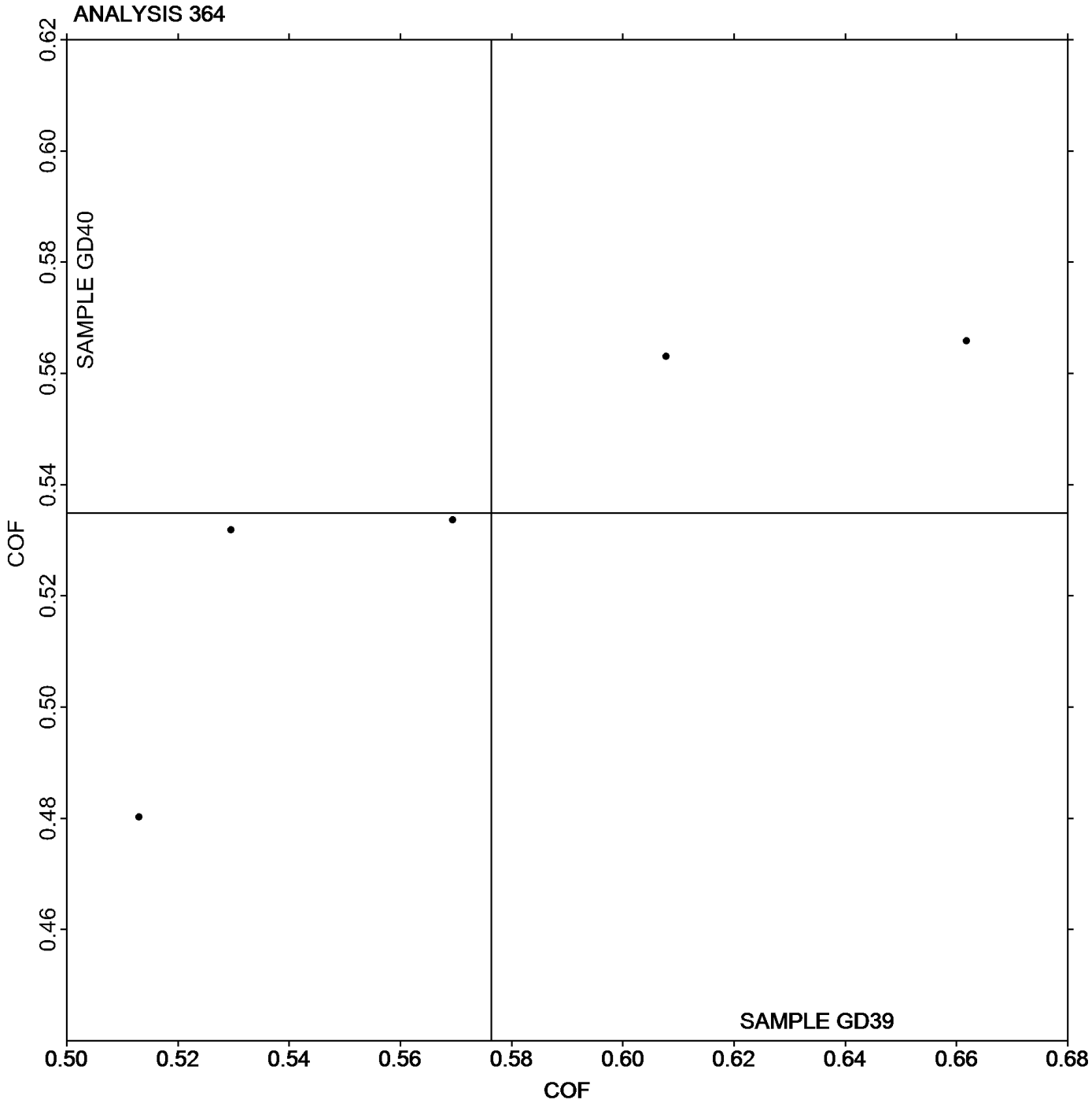
Key to Instrument Codes Reported by Participants

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

Paper & Paperboard Interlaboratory Testing Program
Analysis 364
Coefficient of Static Friction - Horizontal Plane Method - Printing Papers

Grand Mean Sample **GD39** = 0.57632 COF

Grand Mean Sample **GD40** = 0.53488 COF



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

WebCode	Data Flag	Sample GD39 Lab Mean	Sample GD39 Diff from Grand Mean	Sample GD39 CPV	Sample GD40 Lab Mean	Sample GD40 Diff from Grand Mean	Sample GD40 CPV	Instr Code
38LZ8V		0.3536	-0.0309	-0.22	0.3352	-0.0466	-0.35	TM
3T2K6V		0.4984	0.1139	0.82	0.4602	0.0784	0.59	TA
JWTAH8		0.3628	-0.0217	-0.16	0.3792	-0.0026	-0.02	IR
KXDDQ6		0.3940	0.0095	0.07	0.4620	0.0802	0.60	TA
PRX7EH		0.1878	-0.1967	-1.42	0.2444	-0.1374	-1.04	TA
TALQKC		0.5444	0.1599	1.16	0.5640	0.1822	1.37	TM
VKEYEY		0.0790	-0.3055	-2.21	0.0736	-0.3082	-2.32	TM
VRT32R		0.4454	0.0609	0.44	0.4366	0.0548	0.41	TA
WAU2R8		0.4422	0.0577	0.42	0.3468	-0.0350	-0.26	XX
WLPFQ4		0.4752	0.0907	0.66	0.4678	0.0860	0.65	TA
ZMK6L9		0.4472	0.0627	0.45	0.4300	0.0482	0.36	TM

Summary Statistics

	Sample GD39	Sample GD40
Grand Means	0.38455 COF	0.38180 COF
SD Btwn Labs	0.13830 COF	0.13258 COF

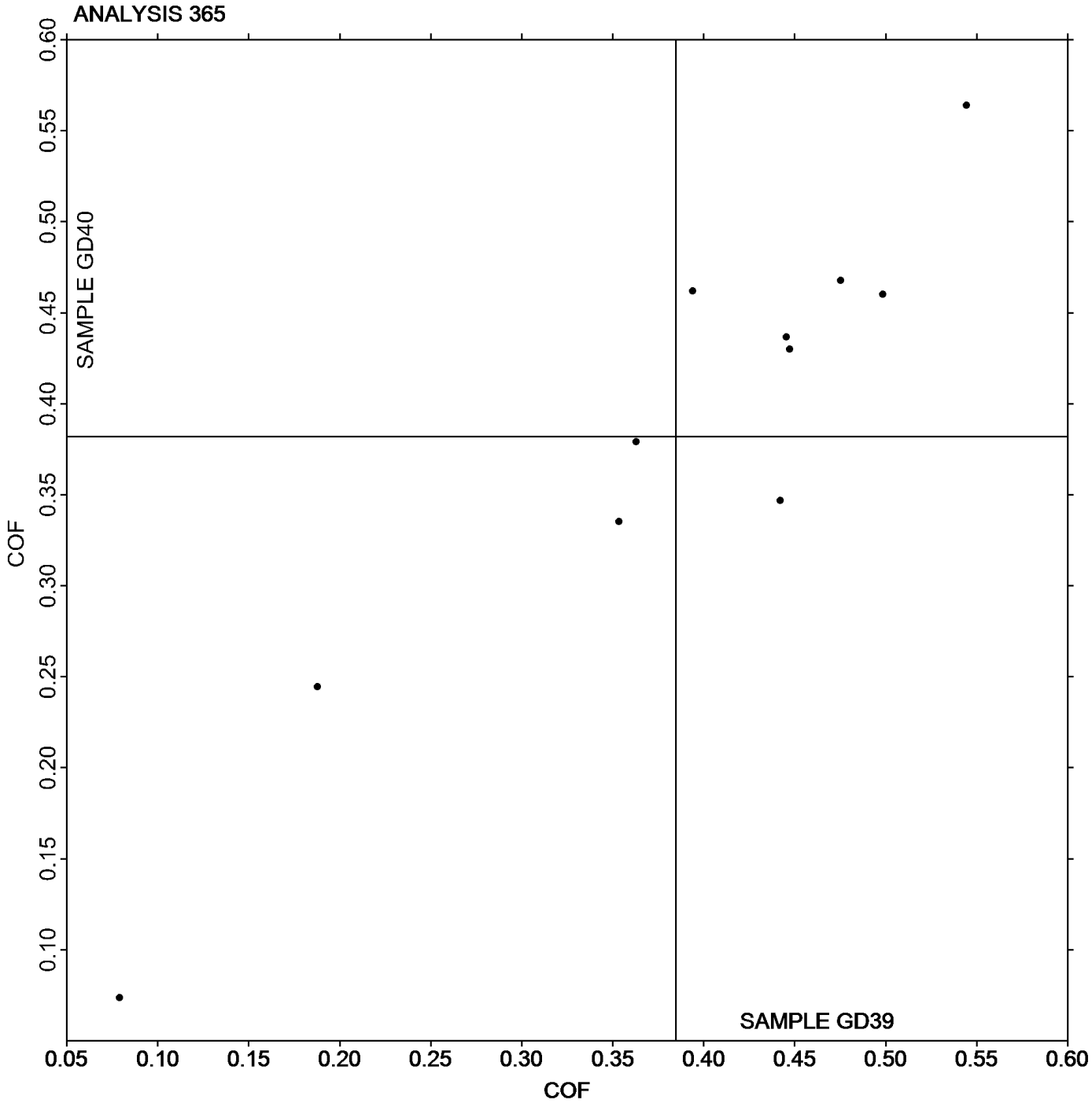
Statistics based on 11 of 11 reporting participants

Key to Instrument Codes Reported by Participants

IR	IMASS SP-2000	TA	Thwing-Albert Friction Tester
TM	TMI 32-06 Monitor/Slip and Friction	XX	Instrument make/model not specified by lab

Grand Mean Sample **GD39** = 0.38455 COF

Grand Mean Sample **GD40** = 0.38180 COF



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

WebCode	Data Flag	Sample GE39 Lab Mean	Sample GE39 Diff from Grand Mean	Sample GE39 CPV	Sample GE40 Lab Mean	Sample GE40 Diff from Grand Mean	Sample GE40 CPV	Instr Code
2AVPVD		16.00	-1.09	-1.23	14.77	-0.74	-0.83	LP
2FK6NQ		16.80	-0.29	-0.33	15.70	0.19	0.21	LW
2Q4GZ4		15.24	-1.84	-2.09	13.74	-1.78	-1.98	RE
6N2VWM		18.85	1.76	2.00	16.35	0.84	0.93	WG
7EXXQY		15.93	-1.16	-1.32	14.83	-0.68	-0.76	PP
BTELPB		16.66	-0.43	-0.49	14.01	-1.51	-1.68	TN
CAK9PC		16.48	-0.60	-0.69	14.93	-0.58	-0.65	TL
CYFHLF		16.90	-0.19	-0.22	15.96	0.45	0.50	PP
D2L3AF		18.45	1.36	1.55	16.20	0.69	0.77	HG
DAT2HG		16.59	-0.49	-0.56	14.69	-0.82	-0.92	PP
EMWKXN		17.32	0.23	0.26	16.01	0.50	0.55	LA
FA93F4		17.06	-0.02	-0.03	15.39	-0.12	-0.13	PP
FV88JW		17.34	0.25	0.29	14.58	-0.93	-1.04	HG
G8XFJB		17.42	0.33	0.38	15.79	0.28	0.31	PP
H7GKD9		18.02	0.93	1.06	16.75	1.24	1.38	HG
HTUCUA		17.36	0.27	0.31	15.46	-0.05	-0.06	LP
J2LBKM		17.90	0.81	0.92	16.99	1.48	1.65	GA
JYGKFR		18.40	1.31	1.49	16.08	0.57	0.63	XX
KELCWN		14.96	-2.13	-2.41	13.69	-1.82	-2.03	PP
KYW6ZP		18.45	1.36	1.54	17.04	1.53	1.70	LA
L4L248		17.46	0.37	0.42	16.48	0.97	1.08	XX
LV7HHL		15.78	-1.31	-1.48	14.42	-1.09	-1.22	LP
MG3FF6		17.50	0.41	0.47	15.66	0.14	0.16	PP
MY4ZHY		16.84	-0.25	-0.28	15.76	0.25	0.28	XX
N3YCTP		15.95	-1.14	-1.29	14.17	-1.34	-1.49	LP
NEVHLN		17.81	0.72	0.82	15.90	0.39	0.43	LP
P7X8T4		16.97	-0.12	-0.14	14.80	-0.71	-0.79	PP
QJX7G2		17.14	0.05	0.06	16.15	0.64	0.71	LA
QNQDV3		17.64	0.55	0.63	16.41	0.90	1.00	TL
RUFCM4		16.77	-0.32	-0.37	15.78	0.27	0.30	PP
T8VR8E		16.84	-0.25	-0.28	15.46	-0.05	-0.06	PP
VFMLHH		17.37	0.28	0.32	16.40	0.89	0.99	LP
VRT32R		16.74	-0.35	-0.39	14.54	-0.97	-1.08	LA
WAU2R8		16.30	-0.79	-0.89	15.20	-0.31	-0.35	GS
WLPFQ4		17.56	0.47	0.54	15.25	-0.26	-0.29	WG
XALGG9		16.90	-0.19	-0.21	15.16	-0.35	-0.39	LP
XWLJTC		16.60	-0.49	-0.55	15.30	-0.21	-0.24	LA
Y3LHJR		16.72	-0.37	-0.42	15.05	-0.46	-0.52	PP
YUEKYV		18.19	1.10	1.25	16.83	1.32	1.47	LP
ZC6DXX		18.31	1.22	1.39	16.81	1.30	1.45	HG

Paper & Paperboard Interlaboratory Testing Program
Analysis 370
Air Resistance - Gurley Oil Type

Summary Statistics

	Sample GE39	Sample GE40
Grand Means	17.088 sec/100 cc	15.512 sec/100 cc
SD Btwn Labs	0.881 sec/100 cc	0.898 sec/100 cc

Statistics based on 40 of 40 reporting participants

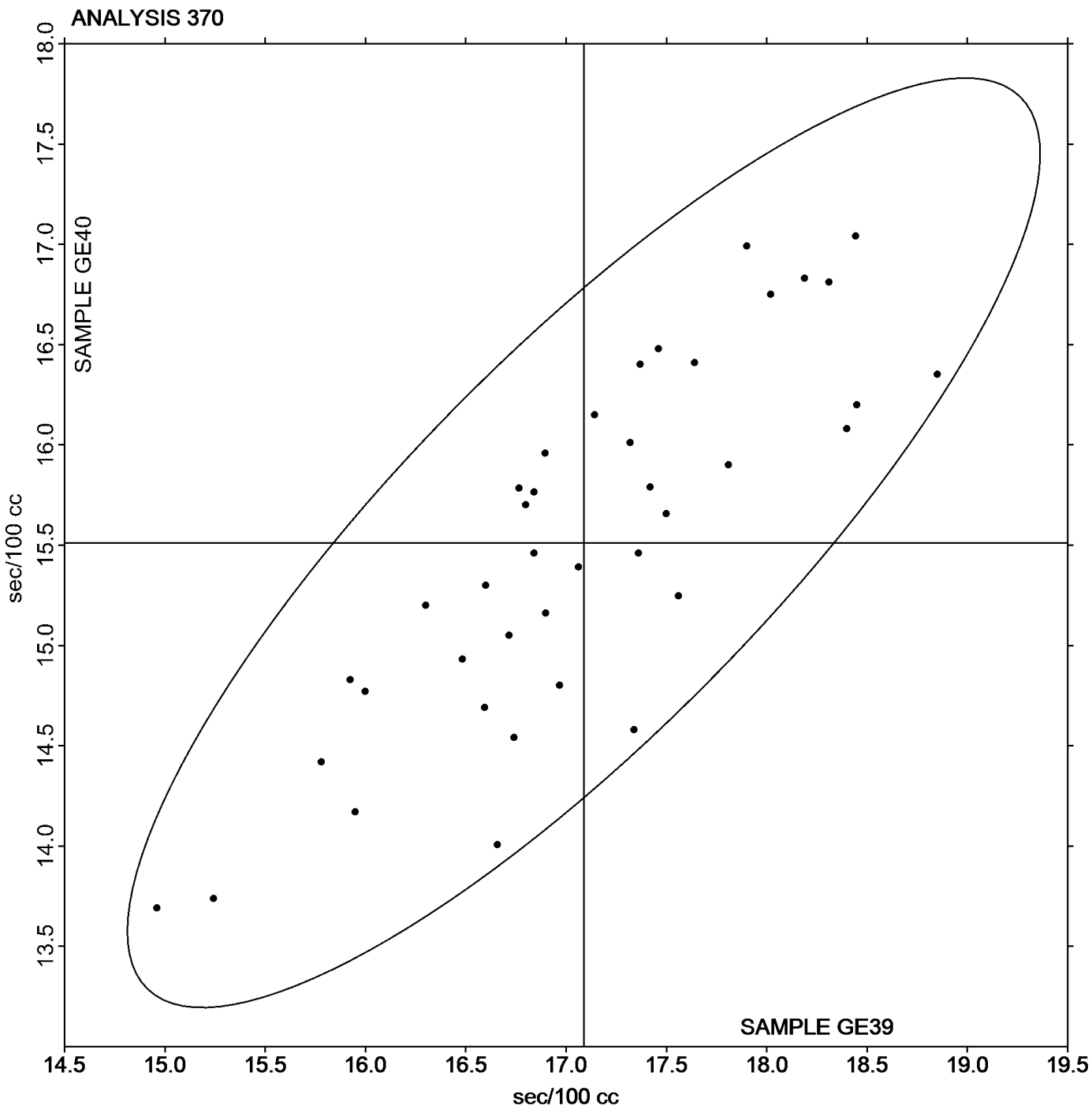
Key to Instrument Codes Reported by Participants

GA	Gurley Precision #4340 Automatic Densometer	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	RE	Regmed Gurley Densometer PGH-T
TL	Gurley Densometer #4110, Oil Flotation	TN	Gurley S-P-S Tester #4190
WG	W & LE Gurley Tester	XX	Instrument make/model not specified by lab

Paper & Paperboard Interlaboratory Testing Program
Analysis 370
Air Resistance - Gurley Oil Type

Grand Mean Sample **GE39** = 17.088 sec/100 cc

Grand Mean Sample **GE40** = 15.512 sec/100 cc



Paper & Paperboard Interlaboratory Testing Program
Analysis 372
Porosity - Sheffield Type - Sheffield Units for 3/4 inch Diameter Orifice

WebCode	Data Flag	Sample GE39 Lab Mean	Sample GE39 Diff from Grand Mean	Sample GE39 CPV	Sample GE40 Lab Mean	Sample GE40 Diff from Grand Mean	Sample GE40 CPV	Instr Code
8ZNYWH		161.1	5.0	0.35	178.4	7.9	0.39	GA
9YUDYL		150.3	-5.8	-0.41	161.1	-9.4	-0.47	TT
CRJHBU		159.7	3.6	0.25	181.2	10.7	0.53	HM
J2LBKM		150.1	-6.0	-0.42	166.1	-4.4	-0.22	GA
KELCWN		167.3	11.2	0.78	187.6	17.1	0.85	SH
MLWD8G		153.0	-3.1	-0.22	160.7	-9.8	-0.49	TT
P2NRL2		185.1	29.0	2.03	210.9	40.4	2.01	TT
VYGKJA		146.3	-9.8	-0.69	157.3	-13.2	-0.66	LP
WAU2R8		130.5	-25.6	-1.79	137.2	-33.3	-1.66	SH
ZC6DXX		157.7	1.6	0.11	164.3	-6.2	-0.31	TT

Summary Statistics

	Sample GE39	Sample GE40
Grand Means	156.11 Sheffield Units	170.48 Sheffield Units
SD Btwn Labs	14.29 Sheffield Units	20.07 Sheffield Units

Statistics based on 10 of 10 reporting participants

Key to Instrument Codes Reported by Participants

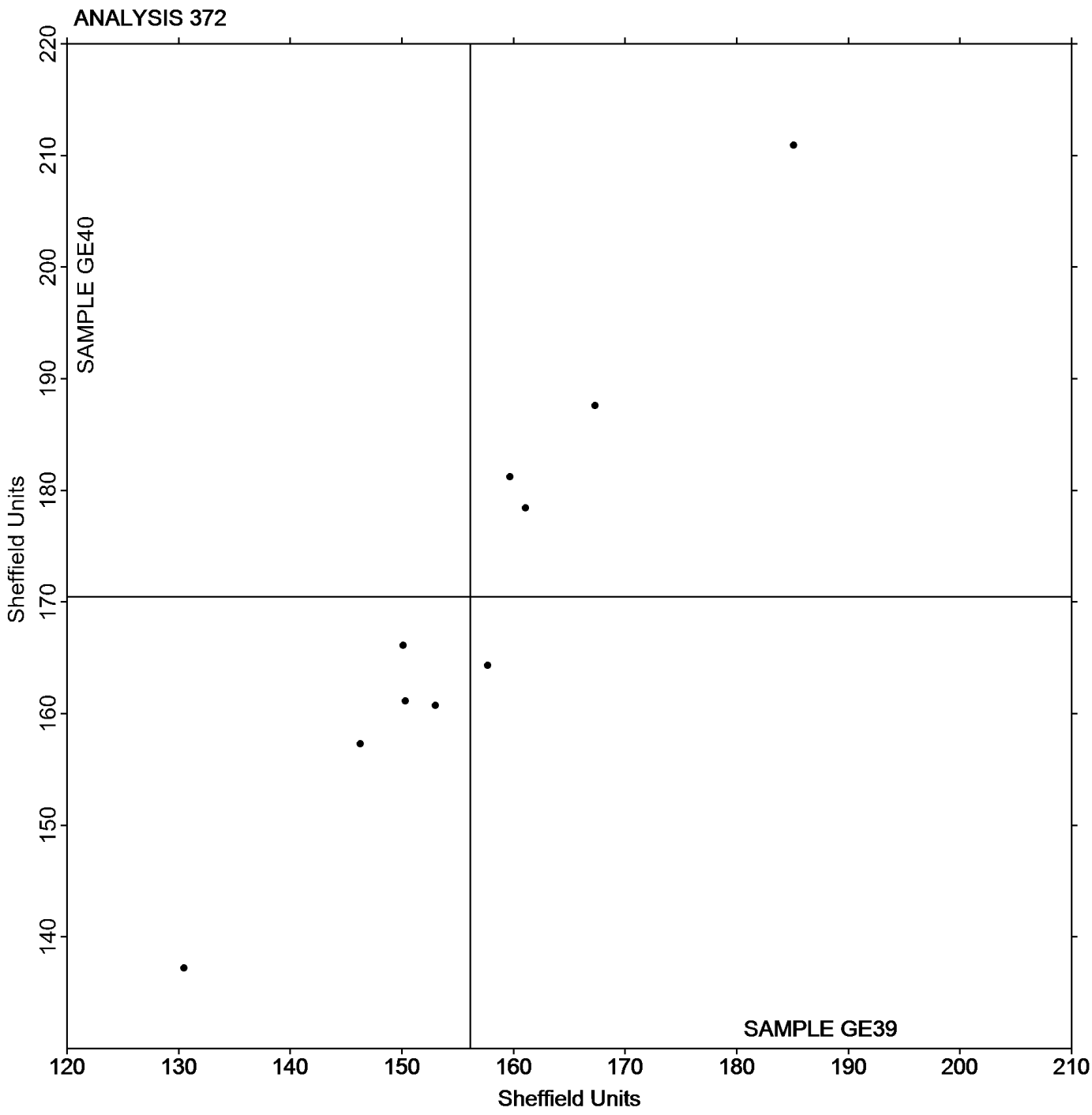
GA	Gurley Precision #4340 Automatic Densometer	HM	Technidyne - Hagerty Model #538
LP	L & W Densometer, Air Permeance	SH	Sheffield
TT	TMI Monitor/Smoothness II, Model 58-24		

Paper & Paperboard Interlaboratory Testing Program

Analysis 372

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

Grand Mean Sample **GE39** = 156.11 Sheffield Units Grand Mean Sample **GE40** = 170.48 Sheffield Units



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

WebCode	Data Flag	Sample GJ39 Lab Mean	Sample GJ39 Diff from Grand Mean	Sample GJ39 CPV	Sample GJ40 Lab Mean	Sample GJ40 Diff from Grand Mean	Sample GJ40 CPV
4R72YN		1.0810	0.1889	1.74	1.0560	0.2419	2.24
8B9B9V		1.0230	0.1309	1.20	0.9900	0.1759	1.63
8FKY6L		0.8910	-0.0011	-0.01	0.7750	-0.0391	-0.36
9GCEYU		0.8440	-0.0481	-0.44	0.7780	-0.0361	-0.33
9YUDYL		0.8660	-0.0261	-0.24	0.7890	-0.0251	-0.23
AGA76Z		0.8480	-0.0441	-0.41	0.7760	-0.0381	-0.35
C24UM7		0.8090	-0.0831	-0.76	0.7880	-0.0261	-0.24
CWCM4X		0.8250	-0.0671	-0.62	0.6620	-0.1521	-1.41
CYFHLF		0.9420	0.0499	0.46	0.8680	0.0539	0.50
DAT2HG		0.8510	-0.0411	-0.38	0.8250	0.0109	0.10
DBCLRV		1.0490	0.1569	1.44	0.9650	0.1509	1.40
GEFQT6		0.8000	-0.0921	-0.85	0.7350	-0.0791	-0.73
GYNTRA	*	0.5990	-0.2931	-2.69	0.5620	-0.2521	-2.33
H7GKD9		0.8020	-0.0901	-0.83	0.7190	-0.0951	-0.88
KELCWN		0.9540	0.0619	0.57	0.8970	0.0829	0.77
KXDDQ6		0.8450	-0.0471	-0.43	0.7380	-0.0761	-0.70
LV7HHL		0.8820	-0.0101	-0.09	0.7960	-0.0181	-0.17
M4ECCE		0.8160	-0.0761	-0.70	0.7570	-0.0571	-0.53
MY4ZHY		0.8530	-0.0391	-0.36	0.7660	-0.0481	-0.45
PRX7EH	*	1.1110	0.2189	2.01	0.9200	0.1059	0.98
QPQ9ML		0.8730	-0.0191	-0.18	0.8130	-0.0011	-0.01
RUFCM4		0.8570	-0.0351	-0.32	0.7780	-0.0361	-0.33
T7YBTW		1.0260	0.1339	1.23	0.9190	0.1049	0.97
TG8LLG		0.8310	-0.0611	-0.56	0.7480	-0.0661	-0.61
WEKGDT		0.9830	0.0909	0.84	0.9440	0.1299	1.20
WLPFQ4		0.7550	-0.1371	-1.26	0.6270	-0.1871	-1.73
XFCUHW		1.0650	0.1729	1.59	0.9120	0.0979	0.91
XHHE7W		0.8243	-0.0678	-0.62	0.7610	-0.0531	-0.49
XR4JBB		0.9260	0.0339	0.31	0.8440	0.0299	0.28
ZC6DXX		0.8540	-0.0381	-0.35	0.7910	-0.0231	-0.21
ZYH7XC		0.9690	0.0769	0.71	0.9390	0.1249	1.16

Summary Statistics

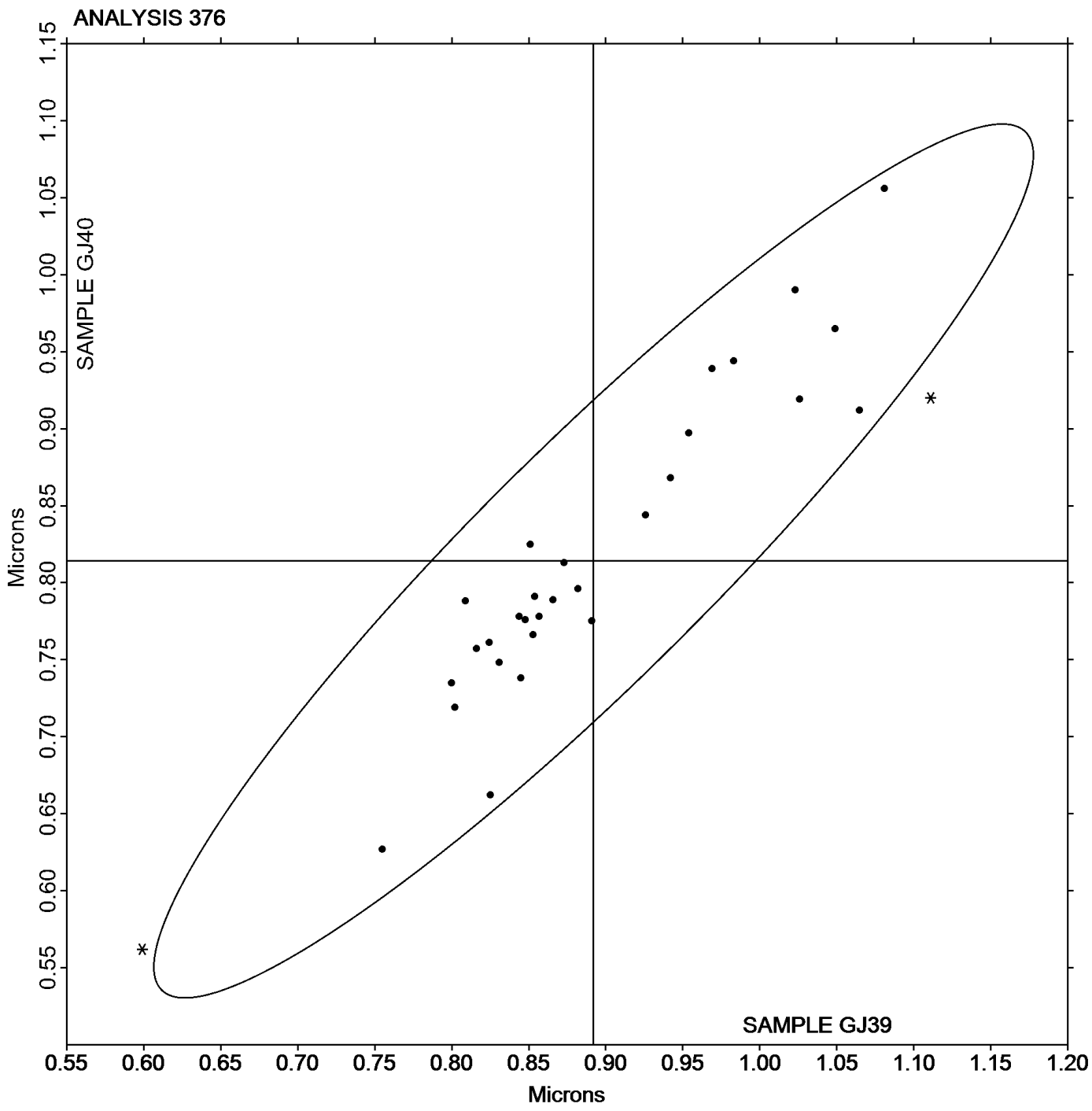
	Sample GJ39	Sample GJ40
Grand Means	0.89207 Microns	0.81413 Microns
SD Btwn Labs	0.10881 Microns	0.10811 Microns

Statistics based on 31 of 31 reporting participants

Paper & Paperboard Interlaboratory Testing Program
Analysis 376
Roughness - Print Surf Method - 0.5 to 4.0 Microns

Grand Mean Sample **GJ39** = 0.89207 Microns

Grand Mean Sample **GJ40** = 0.81413 Microns



Paper & Paperboard Interlaboratory Testing Program
Analysis 377
Roughness - Print Surf Method - 2.5 to 6.0 Microns

WebCode	Data Flag	Sample GK39 Lab Mean	Sample GK39 Diff from Grand Mean	Sample GK39 CPV	Sample GK40 Lab Mean	Sample GK40 Diff from Grand Mean	Sample GK40 CPV
BWFPGX		4.363	0.275	1.06	4.066	0.164	0.62
EMWKXN		3.661	-0.427	-1.64	3.375	-0.527	-2.00
G8XFJB		4.118	0.030	0.12	4.063	0.161	0.61
H7GKD9		3.970	-0.118	-0.45	3.670	-0.232	-0.88
MG3FF6		4.357	0.269	1.03	4.094	0.192	0.73
MJRPRR		3.730	-0.358	-1.37	3.770	-0.132	-0.50
WLPFQ4		4.124	0.036	0.14	3.958	0.056	0.21
XALGG9		4.119	0.031	0.12	3.881	-0.021	-0.08
Y3LHJR		4.348	0.260	1.00	4.240	0.338	1.28

Summary Statistics

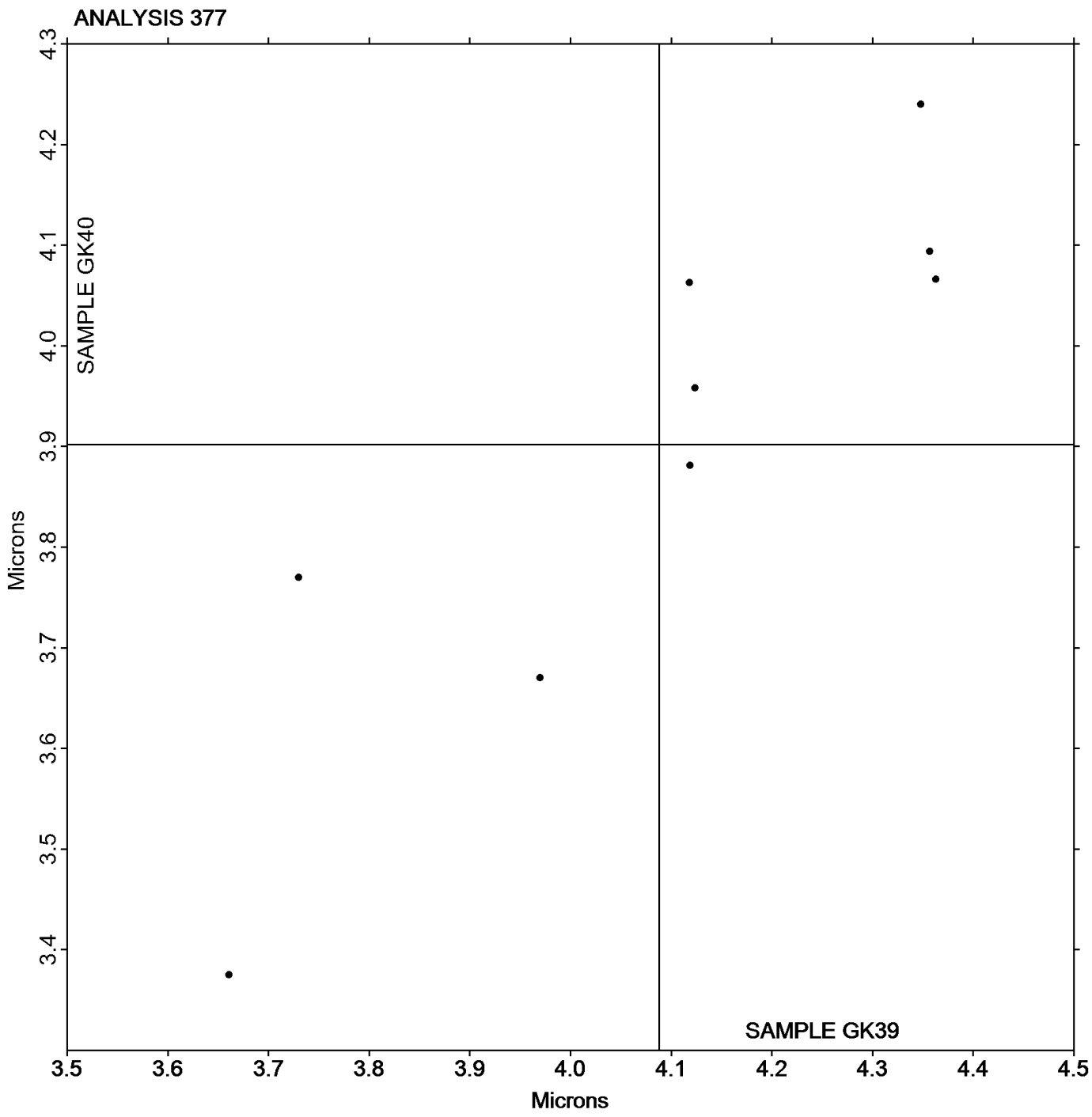
	Sample GK39	Sample GK40
Grand Means	4.0878 Microns	3.9019 Microns
SD Btwn Labs	0.2606 Microns	0.2637 Microns

Statistics based on 9 of 9 reporting participants

Paper & Paperboard Interlaboratory Testing Program
Analysis 377
Roughness - Print Surf Method - 2.5 to 6.0 Microns

Grand Mean Sample **GK39** = 4.0878 Microns

Grand Mean Sample **GK40** = 3.9019 Microns



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

WebCode	Data Flag	Sample GL39 Lab Mean	Sample GL39 Diff from Grand Mean	Sample GL39 CPV	Sample GL40 Lab Mean	Sample GL40 Diff from Grand Mean	Sample GL40 CPV	Instr Code
2FK6NQ		233.6	1.9	0.17	97.90	3.90	0.50	TS
4R72YN	X	176.3	-55.4	-5.05	93.90	-0.10	-0.01	TS
6N2VWM		245.7	14.0	1.28	106.40	12.40	1.59	PG
6V43FW	X	209.5	-22.2	-2.02	116.20	22.20	2.84	TS
7EXXQY		221.0	-10.7	-0.98	101.00	7.00	0.90	SH
8B9B9V	*	204.0	-27.7	-2.53	93.30	-0.70	-0.09	GL
8JL6LC		252.0	20.3	1.85	92.10	-1.90	-0.24	GA
8ZNYWH		237.4	5.7	0.52	103.90	9.90	1.27	GA
9GCEYU	X	219.9	-11.8	-1.07	172.20	78.19	10.01	PP
9YUDYL		222.6	-9.1	-0.83	104.80	10.80	1.38	TT
AGA76Z		234.2	2.5	0.23	94.90	0.90	0.11	LW
BWFPGX		249.0	17.3	1.58	92.90	-1.10	-0.14	HM
CRJHBU		239.7	8.0	0.73	93.80	-0.20	-0.03	HM
CWCM4X		232.0	0.3	0.03	94.50	0.50	0.06	LA
CYFHLF		232.7	1.0	0.09	101.18	7.18	0.92	PP
D2L3AF		250.9	19.2	1.75	89.80	-4.20	-0.54	HM
DAT2HG		228.2	-3.5	-0.32	83.03	-10.98	-1.40	PP
DBCLRV		237.9	6.2	0.56	91.35	-2.65	-0.34	HM
EMWKXN		237.1	5.4	0.49	104.90	10.90	1.39	LA
ETL3CY		247.4	15.7	1.43	105.00	11.00	1.41	GL
FA93F4		222.2	-9.5	-0.87	86.54	-7.47	-0.96	PP
FV88JW		250.7	19.0	1.73	100.80	6.80	0.87	TS
G8XFJB		226.8	-4.9	-0.45	84.05	-9.95	-1.27	PP
GYNTRA	X	277.3	45.6	4.16	137.80	43.80	5.60	TT
J2LBKM		226.2	-5.5	-0.50	94.40	0.40	0.05	HM
J86EP4		230.6	-1.1	-0.10	88.70	-5.30	-0.68	PP
JJK7GJ		237.8	6.1	0.56	99.80	5.80	0.74	GA
KELCWN		243.4	11.7	1.07	90.70	-3.30	-0.42	PP
KXDDQ6		226.3	-5.4	-0.49	99.50	5.50	0.70	HM
KYW6ZP		217.4	-14.3	-1.31	83.55	-10.45	-1.34	LA
LV7HHL	X	194.1	-37.6	-3.43	108.90	14.90	1.91	TS
M4ECCE		236.0	4.3	0.39	96.49	2.48	0.32	PP
MG3FF6		226.1	-5.6	-0.51	91.08	-2.93	-0.37	PP
MLWD8G	*	241.0	9.3	0.85	114.70	20.70	2.65	TT
MTJ3TC		220.4	-11.3	-1.03	84.71	-9.30	-1.19	SH
MY4ZHY		225.2	-6.5	-0.59	85.70	-8.30	-1.06	HM
NZWCUD		216.3	-15.4	-1.41	83.06	-10.94	-1.40	PP
P7X8T4		231.3	-0.4	-0.04	91.68	-2.33	-0.30	PP
PRX7EH		226.8	-4.9	-0.45	92.80	-1.20	-0.15	PP
RUFCM4		228.1	-3.6	-0.33	91.70	-2.30	-0.29	PP
RVMRVU		234.4	2.7	0.25	89.90	-4.10	-0.53	XX

Paper & Paperboard Interlaboratory Testing Program
Analysis 378
Roughness - Sheffield Type

WebCode	Data Flag	Sample GL39 Lab Mean	Sample GL39 Diff from Grand Mean	Sample GL39 CPV	Sample GL40 Lab Mean	Sample GL40 Diff from Grand Mean	Sample GL40 CPV	Instr Code
T8VR8E		245.9	14.2	1.30	94.46	0.46	0.06	PP
TG8LLG		228.2	-3.5	-0.32	84.70	-9.30	-1.19	PP
VKEYEY		226.8	-4.9	-0.45	88.20	-5.80	-0.74	TS
VKW3Q7		235.2	3.5	0.32	82.41	-11.59	-1.48	PP
VYGKJA		245.9	14.2	1.30	93.90	-0.10	-0.01	PP
WAU2R8	*	226.4	-5.3	-0.48	111.30	17.30	2.21	XX
WDDYGH		230.2	-1.5	-0.14	97.60	3.60	0.46	TT
WGAMXP	X	153.8	-77.9	-7.11	172.90	78.90	10.10	XX
WLPFQ4		239.0	7.3	0.67	106.10	12.10	1.55	XX
WQHE4D		225.6	-6.1	-0.56	81.72	-12.29	-1.57	XX
XALGG9		225.9	-5.8	-0.53	94.00	0.00	0.00	LW
Y34BFV		210.1	-21.6	-1.97	93.30	-0.70	-0.09	TS
Y3LHJR		246.1	14.4	1.31	96.67	2.67	0.34	PP
YHXXLN		217.4	-14.3	-1.30	89.60	-4.40	-0.56	LA
YUEKYV		210.6	-21.1	-1.92	82.50	-11.50	-1.47	LW
ZC6DXX		228.0	-3.7	-0.34	100.60	6.60	0.84	TT
ZMK6L9		234.6	2.9	0.26	90.54	-3.47	-0.44	PP

Summary Statistics

	Sample GL39	Sample GL40
Grand Means	231.70 Sheffield	94.004 Sheffield
SD Btwn Labs	10.96 Sheffield	7.815 Sheffield

Statistics based on 52 of 58 reporting participants

Comments on Assigned Data Flags for Test #378

LV7HHL (X) - Data for sample GL39 are low.

9GCEYU (X) - Extreme Data for Sample GL40.

6V43FW (X) - Data for sample GL40 are high.

GYNTRA (X) - Data for both samples are high.

4R72YN (X) - Data for sample GL39 are low.

WGAMXP (X) - Extreme Data.

JJK7GJ - One determination removed from the Lab Mean of Sample GL39 per Grubb's Test at 1% risk (TAPPI 1205).

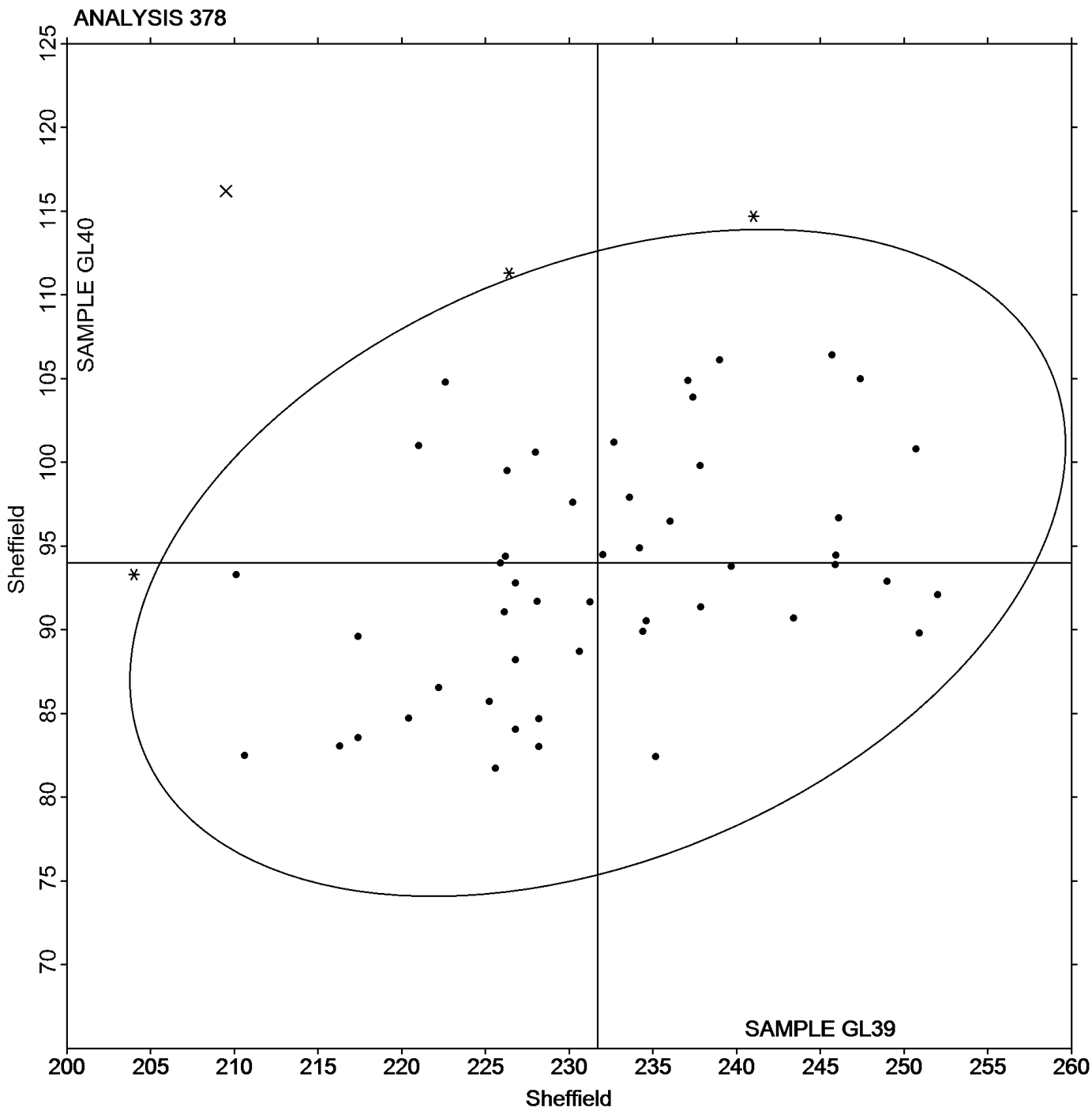
Key to Instrument Codes Reported by Participants

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	PG	Precision Gage Smoothcheck
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 378
Roughness - Sheffield Type

Grand Mean Sample **GL39** = 231.70 Sheffield

Grand Mean Sample **GL40** = 94.004 Sheffield



Paper & Paperboard Interlaboratory Testing Program
Analysis 382
Moisture in Paper

WebCode	Data Flag	Sample GM39 Lab Mean	Sample GM39 Diff from Grand Mean	Sample GM39 CPV	Sample GM40 Lab Mean	Sample GM40 Diff from Grand Mean	Sample GM40 CPV
49UECF		4.590	0.098	0.19	4.560	0.068	0.18
4WZ2DJ		4.282	-0.210	-0.41	4.198	-0.294	-0.76
7PVY6N		4.408	-0.084	-0.17	4.611	0.119	0.31
BWFPGX		4.370	-0.122	-0.24	3.930	-0.562	-1.45
GYNTRA		5.460	0.968	1.90	5.170	0.678	1.76
QPQ9ML		4.213	-0.280	-0.55	4.319	-0.173	-0.45
T8FBAZ		4.591	0.099	0.19	4.588	0.096	0.25
VFMLHH		3.550	-0.942	-1.85	4.132	-0.360	-0.93
Y3LHJR		5.065	0.573	1.13	5.023	0.532	1.38
ZVG39B		4.394	-0.098	-0.19	4.385	-0.107	-0.28

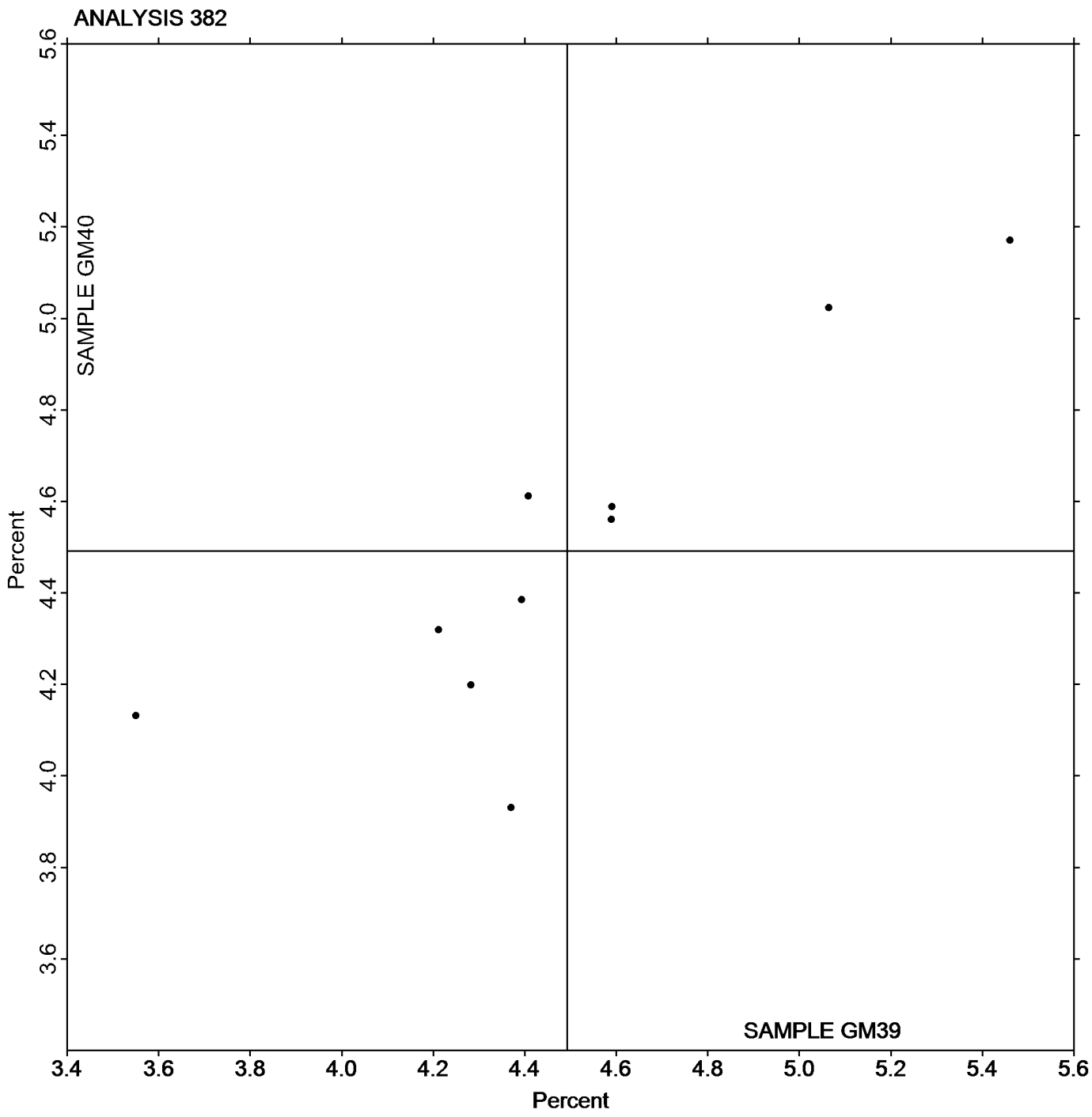
Summary Statistics

	Sample GM39	Sample GM40
Grand Means	4.4922 Percent	4.4916 Percent
SD Btwn Labs	0.5084 Percent	0.3863 Percent

Statistics based on 10 of 10 reporting participants

Grand Mean Sample **GM39** = 4.4922 Percent

Grand Mean Sample **GM40** = 4.4916 Percent



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

WebCode	Data Flag	Sample GN39 Lab Mean	Sample GN39 Diff from Grand Mean	Sample GN39 CPV	Sample GN40 Lab Mean	Sample GN40 Diff from Grand Mean	Sample GN40 CPV
2FK6NQ		92.90	-0.81	-1.64	93.33	-0.04	-0.11
346FMZ		93.32	-0.39	-0.79	92.51	-0.86	-2.12
4KQHGA		93.35	-0.37	-0.74	93.39	0.02	0.04
6N2VWM		93.19	-0.52	-1.05	93.23	-0.14	-0.36
7EXXQY		93.77	0.06	0.12	93.36	-0.01	-0.04
8J2HR2		93.78	0.06	0.13	93.48	0.11	0.27
9YUDYL	*	94.60	0.89	1.80	94.44	1.07	2.61
BWFPGX		93.29	-0.43	-0.86	93.29	-0.08	-0.20
CYFHLF		93.62	-0.09	-0.19	93.29	-0.08	-0.21
D2L3AF		93.39	-0.32	-0.65	93.30	-0.07	-0.18
DBCLRV		93.05	-0.66	-1.34	92.50	-0.87	-2.15
EMWKXN		93.59	-0.12	-0.25	93.43	0.06	0.14
ETL3CY	*	95.06	1.35	2.73	94.13	0.76	1.85
FV88JW		93.75	0.04	0.08	93.22	-0.15	-0.38
G8XFJB		93.95	0.23	0.47	93.31	-0.06	-0.15
GEFQT6		93.72	0.01	0.02	93.56	0.19	0.45
H7GKD9	*	94.57	0.86	1.74	93.28	-0.09	-0.23
J2LBKM		93.76	0.05	0.10	93.12	-0.25	-0.63
J86EP4		93.69	-0.02	-0.04	93.31	-0.06	-0.16
KXDDQ6		93.71	0.00	0.00	93.37	0.00	-0.01
KYW6ZP		93.11	-0.60	-1.22	92.83	-0.54	-1.34
MLWD8G		93.53	-0.18	-0.37	92.92	-0.45	-1.12
MTJ3TC		93.70	-0.01	-0.02	93.69	0.32	0.77
PRX7EH		94.53	0.82	1.65	93.56	0.18	0.44
QNQDV3		93.11	-0.60	-1.22	92.96	-0.41	-1.02
RVMRVU		94.51	0.80	1.62	93.86	0.49	1.19
T7YBTW		93.22	-0.50	-1.01	93.09	-0.29	-0.71
T8VR8E		93.68	-0.03	-0.06	93.44	0.06	0.15
UHVFYB		94.12	0.41	0.83	93.64	0.27	0.65
WAU2R8	X	96.90	3.19	6.45	101.11	7.74	18.98
WEKGDT	X	92.30	-1.41	-2.85	91.70	-1.67	-4.11
WGAMXP	*	94.07	0.36	0.73	94.31	0.94	2.30
XHHE7W		93.91	0.20	0.40	93.45	0.08	0.18
Y3LHJR		93.66	-0.05	-0.10	93.64	0.27	0.66
ZC6DXX		93.88	0.17	0.35	93.46	0.08	0.20
ZMK6L9		93.62	-0.09	-0.18	93.13	-0.25	-0.61
ZYH7XC		93.22	-0.49	-1.00	93.29	-0.08	-0.21

Summary Statistics

	Sample GN39	Sample GN40
Grand Means	93.712 Percent	93.375 Percent
SD Btwn Labs	0.494 Percent	0.407 Percent

Statistics based on 35 of 37 reporting participants

Comments on Assigned Data Flags for Test #384

WAU2R8 (X) - Extreme Data.

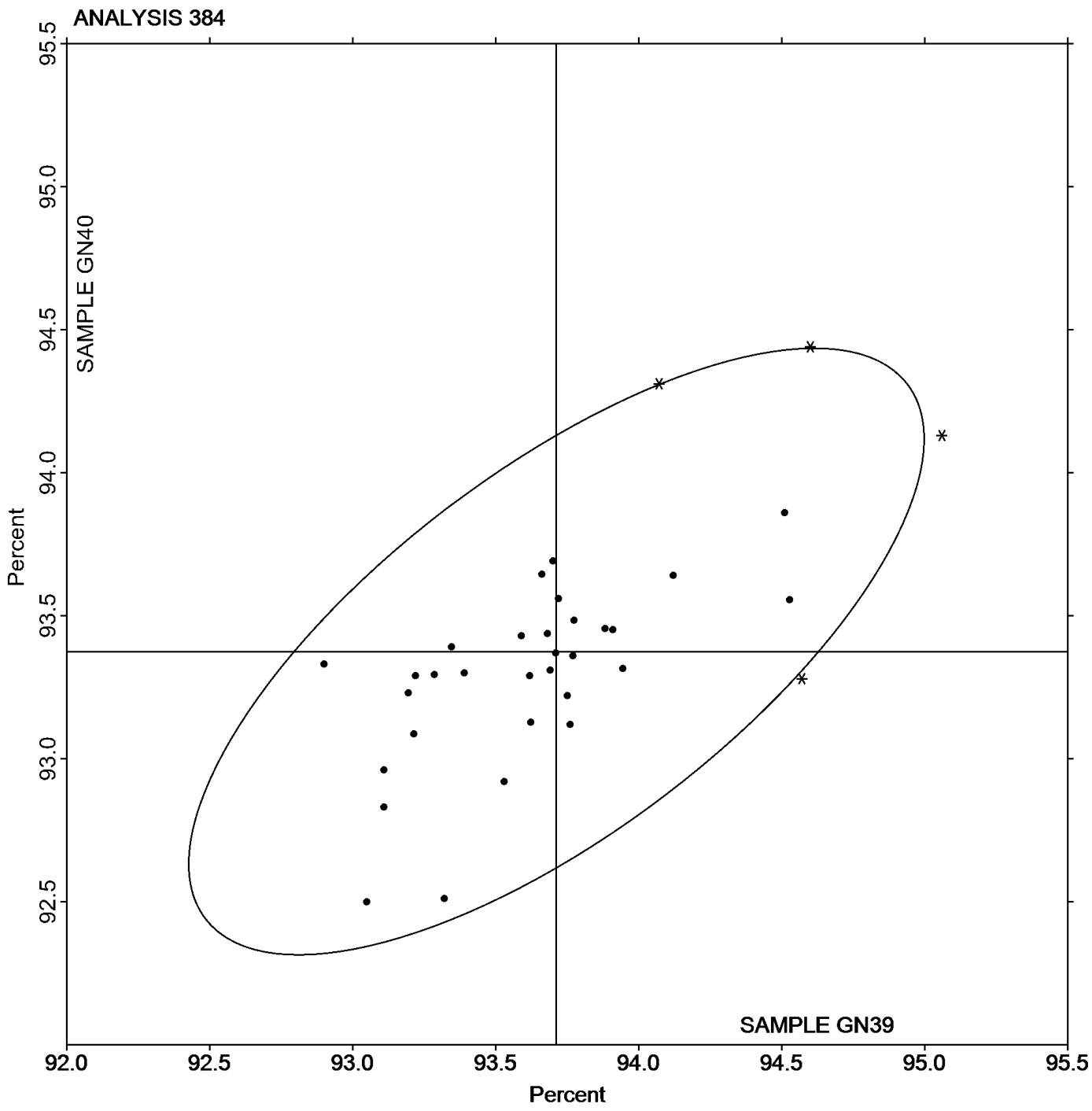
WEKGDT (X) - Data for both samples are low.

ZC6DXX - One determination removed from the Lab Mean of Sample GN39 per Grubb's Test at 1% risk (TAPPI 1205).

Paper & Paperboard Interlaboratory Testing Program
Analysis 384
Opacity (89% Reflectance Backing) - Fine Papers

Grand Mean Sample **GN39** = 93.712 Percent

Grand Mean Sample **GN40** = 93.375 Percent



Paper & Paperboard Interlaboratory Testing Program
Analysis 386
Opacity (Paper Backing) - Fine Papers and Newsprint

WebCode	Data Flag	Sample GP39 Lab Mean	Sample GP39 Diff from Grand Mean	Sample GP39 CPV	Sample GP40 Lab Mean	Sample GP40 Diff from Grand Mean	Sample GP40 CPV
2AVPVD		94.46	0.08	0.31	93.39	0.05	0.64
2Q4GZ4		94.55	0.17	0.65	93.29	-0.05	-0.76
4XEMN7		94.26	-0.12	-0.47	93.20	-0.14	-1.99
8FKY6L	X	85.89	-8.50	-33.10	91.93	-1.42	-19.73
B784HH		94.69	0.31	1.21	93.30	-0.04	-0.59
BRLTTR		94.37	-0.02	-0.06	93.36	0.01	0.19
C24UM7		94.33	-0.05	-0.21	93.37	0.03	0.35
CRJHBU		94.13	-0.25	-0.97	93.26	-0.09	-1.22
DBCLRV		93.66	-0.72	-2.79	93.33	-0.02	-0.24
F2B9KQ		94.49	0.11	0.44	93.50	0.15	2.06
N3YCTP		94.24	-0.14	-0.54	93.33	-0.01	-0.20
NA3DV6		94.56	0.18	0.71	93.43	0.08	1.12
PRX7EH	X	93.85	-0.53	-2.08	94.38	1.04	14.41
TALQKC		94.56	0.18	0.69	93.36	0.01	0.19
VFMLHH		94.51	0.13	0.51	93.39	0.04	0.62
VJ674X		94.52	0.14	0.54	93.34	-0.01	-0.16

Summary Statistics

	Sample GP39	Sample GP40
Grand Means	94.381 Percent	93.347 Percent
SD Btwn Labs	0.257 Percent	0.072 Percent

Statistics based on 14 of 16 reporting participants

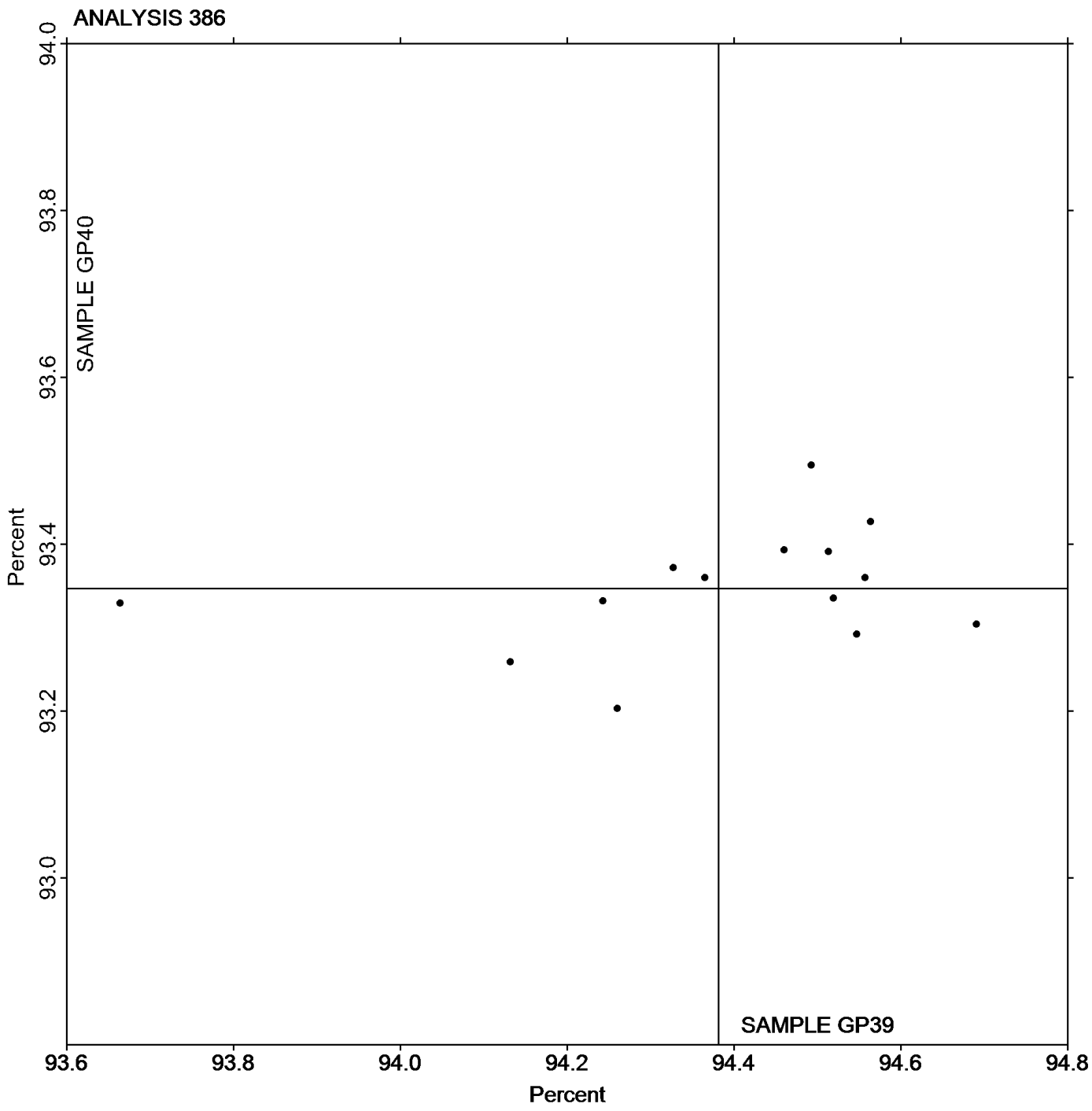
Comments on Assigned Data Flags for Test #386

PRX7EH (X) - Extreme Data for Sample GP40.

8FKY6L (X) - Extreme Data.

Grand Mean Sample **GP39** = 94.381 Percent

Grand Mean Sample **GP40** = 93.347 Percent



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

WebCode	Data Flag	Sample GR39 Lab Mean	Sample GR39 Diff from Grand Mean	Sample GR39 CPV	Sample GR40 Lab Mean	Sample GR40 Diff from Grand Mean	Sample GR40 CPV	Instr Code
6N2VWM		85.64	1.05	1.04	85.10	1.10	1.00	TS
8B9B9V	X	82.60	-1.99	-1.98	82.61	-1.38	-1.25	TS
9GCEYU	X	90.83	6.23	6.18	97.48	13.49	12.22	HD
AGA76Z		83.93	-0.67	-0.66	83.28	-0.72	-0.65	TT
CYFHLF		85.83	1.23	1.22	85.28	1.28	1.16	TT
DBCLRV		83.49	-1.10	-1.10	82.68	-1.31	-1.19	TT
EMWKXN		84.53	-0.06	-0.06	83.93	-0.07	-0.07	TS
FV88JW		84.18	-0.42	-0.42	83.53	-0.47	-0.43	TS
H7GKD9		83.69	-0.91	-0.90	83.21	-0.78	-0.71	TT
J2LBKM		84.70	0.11	0.10	84.20	0.20	0.18	XS
J86EP4		85.74	1.14	1.13	85.09	1.09	0.99	XX
KXDDQ6		83.65	-0.94	-0.94	83.03	-0.97	-0.88	TT
M4ECCE		84.89	0.30	0.30	84.36	0.36	0.33	HD
MG3FF6		83.86	-0.73	-0.73	83.30	-0.70	-0.63	TS
MJRPRR	*	87.08	2.48	2.46	86.86	2.87	2.60	TS
MLWD8G		85.95	1.36	1.34	85.23	1.23	1.11	TS
MTJ3TC		83.39	-1.21	-1.20	82.85	-1.15	-1.04	TA
NZWCUD		83.51	-1.08	-1.07	82.79	-1.21	-1.09	TS
PRX7EH		83.51	-1.08	-1.07	82.74	-1.26	-1.14	TS
QNQDV3	*	85.60	1.01	1.00	85.45	1.45	1.32	TS
R6U6EJ		84.69	0.09	0.09	83.97	-0.03	-0.03	XX
RVMRVU		84.09	-0.51	-0.50	83.40	-0.60	-0.54	XX
T7YBTW		85.53	0.93	0.92	84.91	0.92	0.83	TS
T8VR8E		83.55	-1.04	-1.04	82.79	-1.21	-1.10	TS
TG8LLG		85.70	1.11	1.10	85.24	1.24	1.12	TT
VKW3Q7		83.68	-0.91	-0.90	82.98	-1.02	-0.92	TS
WAU2R8	X	90.92	6.33	6.27	90.38	6.39	5.79	PE
WEKGDT		84.21	-0.39	-0.39	83.51	-0.49	-0.44	VM
ZYH7XC		84.88	0.28	0.28	84.25	0.25	0.22	MK

Summary Statistics

	Sample GR39	Sample GR40
Grand Means	84.595 Percent	83.997 Percent
SD Btwn Labs	1.008 Percent	1.104 Percent

Statistics based on 26 of 29 reporting participants

Comments on Assigned Data Flags for Test #390

9GCEYU (X) - Extreme Data.

WAU2R8 (X) - Extreme Data.

8B9B9V (X) - Inconsistent in testing between samples.

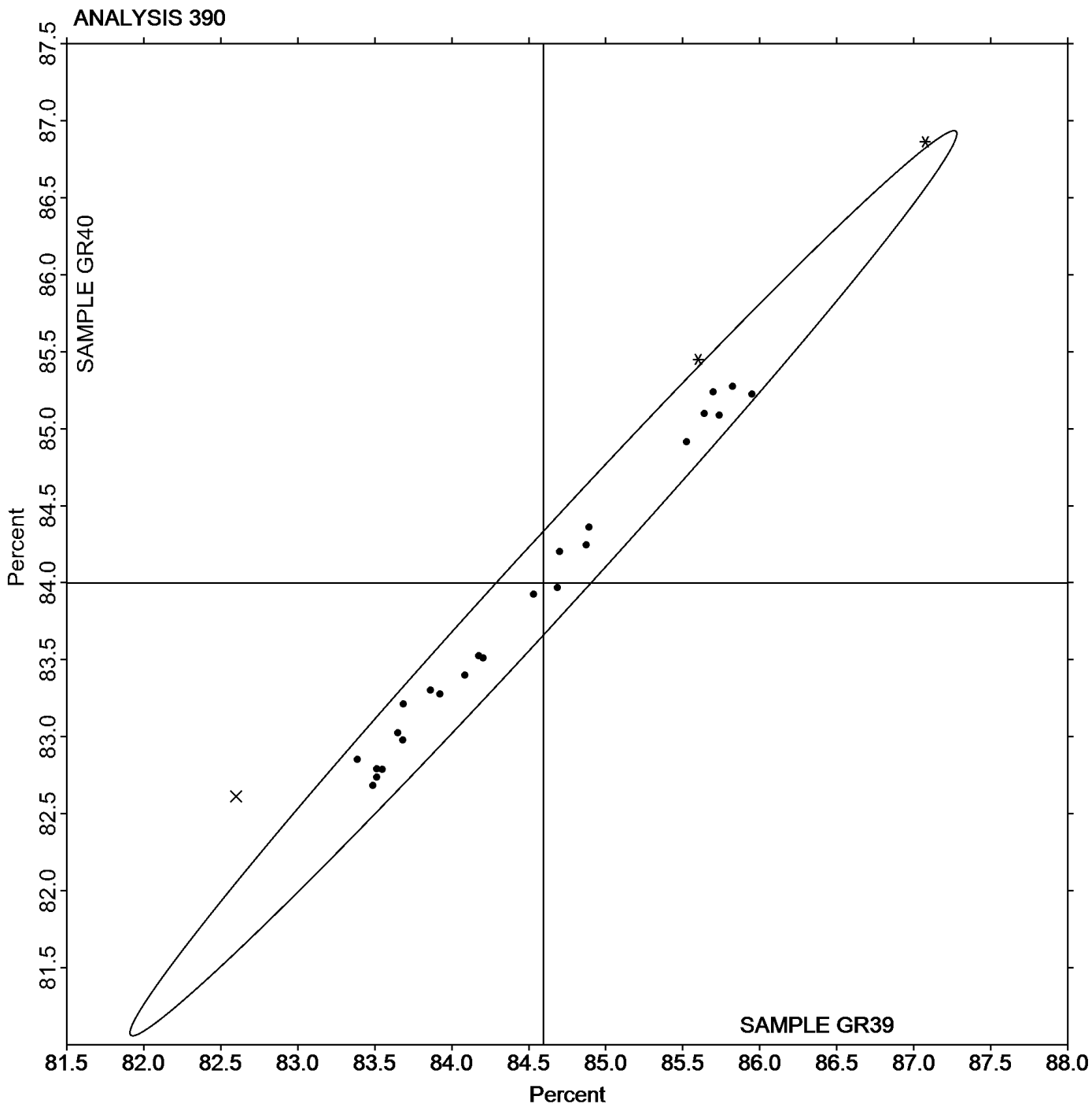
Key to Instrument Codes Reported by Participants

HD	Hunter D25DP - 9000	MK	Macbeth Color-Eye 7000 Spectrophotometer
PE	Photovolt 577	TA	Technidyne, Diano, M.S. S-4
TS	Technidyne Brightimeter Micro S-5	TT	Technidyne Brightimeter Micro S4-M
VM	Valmet PaperLab (was Kajaani/Robotest)	XS	X-Rite 938 Spectrodensitometer
XX	Instrument make/model not specified by lab		

Paper & Paperboard Interlaboratory Testing Program
Analysis 390
Directional Brightness

Grand Mean Sample **GR39** = 84.595 Percent

Grand Mean Sample **GR40** = 83.997 Percent



Paper & Paperboard Interlaboratory Testing Program
Analysis 391
Directional Brightness of Fluorescent Samples

WebCode	Data Flag	Sample GZ39 Lab Mean	Sample GZ39 Diff from Grand Mean	Sample GZ39 CPV	Sample GZ40 Lab Mean	Sample GZ40 Diff from Grand Mean	Sample GZ40 CPV	Instr Code
2FK6NQ		90.96	-0.04	-0.05	97.10	-0.53	-0.51	TS
4KQHGA		90.76	-0.24	-0.30	97.42	-0.21	-0.20	TS
7EXXQY		89.60	-1.40	-1.72	95.90	-1.73	-1.66	HT
8J2HR2		92.34	1.34	1.65	98.34	0.72	0.69	TS
9YUDYL		91.14	0.14	0.17	97.90	0.27	0.26	TT
D2L3AF		89.61	-1.39	-1.71	96.10	-1.52	-1.47	HT
FV88JW		91.08	0.08	0.10	97.53	-0.10	-0.10	TS
G8XFJB		90.81	-0.19	-0.23	97.42	-0.20	-0.20	TS
GEFQT6	X	85.74	-5.26	-6.47	91.88	-5.75	-5.53	TT
GYNTRA	*	91.94	0.94	1.15	100.30	2.67	2.57	EF
KYW6ZP		90.98	-0.02	-0.03	97.86	0.23	0.23	TT
WGAMXP		92.34	1.34	1.65	98.34	0.72	0.69	XX
XHHE7W		90.83	-0.17	-0.21	97.60	-0.02	-0.02	PP
Y3LHJR		90.79	-0.21	-0.26	97.51	-0.12	-0.11	TS
ZMK6L9		90.84	-0.16	-0.20	97.44	-0.19	-0.18	TS

Summary Statistics

	Sample GZ39	Sample GZ40
Grand Means	91.003 Percent	97.626 Percent
SD Btwn Labs	0.813 Percent	1.039 Percent

Statistics based on 14 of 15 reporting participants

Comments on Assigned Data Flags for Test #391

GEFQT6 (X) - Extreme Data.

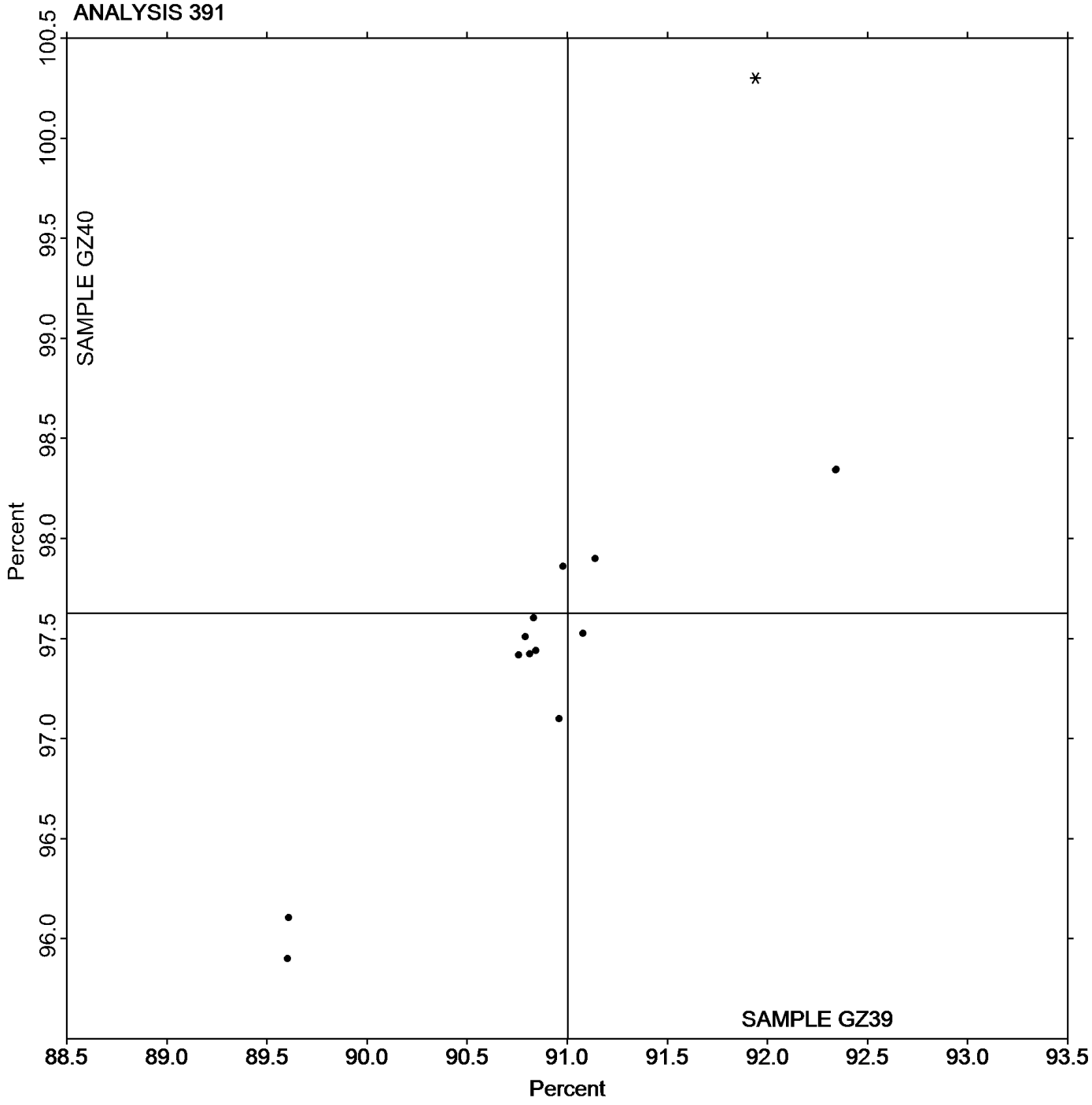
Key to Instrument Codes Reported by Participants

EF	L & W Datacolor Elrepho	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

Paper & Paperboard Interlaboratory Testing Program
Analysis 391
Directional Brightness of Fluorescent Samples

Grand Mean Sample **GZ39** = 91.003 Percent

Grand Mean Sample **GZ40** = 97.626 Percent



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

WebCode	Data Flag	Sample GR39 Lab Mean	Sample GR39 Diff from Grand Mean	Sample GR39 CPV	Sample GR40 Lab Mean	Sample GR40 Diff from Grand Mean	Sample GR40 CPV	Instr Code
2Q4GZ4		83.66	-0.33	-0.99	82.98	-0.41	-1.82	EG
3T2K6V		84.20	0.22	0.65	83.52	0.13	0.60	TC
4MDXAQ		84.04	0.06	0.19	83.41	0.02	0.09	TC
4XEMN7	*	83.13	-0.86	-2.60	83.00	-0.39	-1.76	TC
AGA76Z		84.12	0.14	0.42	83.43	0.04	0.18	EG
BRLTTR		84.08	0.10	0.29	83.43	0.04	0.17	TM
C24UM7		83.98	0.00	0.01	83.50	0.11	0.51	LS
CRJHBU		83.83	-0.16	-0.47	83.30	-0.09	-0.40	TC
DAT2HG		84.28	0.30	0.92	83.60	0.21	0.93	TC
DBCLRV		84.39	0.41	1.25	83.70	0.31	1.39	TC
EH89WZ		83.96	-0.02	-0.06	83.24	-0.15	-0.66	TC
EMWKXN		83.90	-0.08	-0.24	83.21	-0.18	-0.79	TC
F2B9KQ		84.45	0.47	1.42	83.80	0.41	1.85	TC
GYNTRA		83.48	-0.51	-1.53	83.24	-0.15	-0.68	LA
HTUCUA		84.19	0.21	0.63	83.54	0.14	0.65	TC
KXDDQ6		83.91	-0.07	-0.21	83.18	-0.21	-0.95	LT
MG3FF6		84.00	0.02	0.06	83.59	0.20	0.89	TC
NA3DV6		84.18	0.20	0.59	83.70	0.30	1.36	TC
PRX7EH	X	85.57	1.59	4.83	83.97	0.58	2.59	TM
R6U6EJ		84.17	0.19	0.57	83.48	0.09	0.41	EE
RUFCM4		84.23	0.24	0.74	83.60	0.21	0.94	PP
TALQKC		83.92	-0.06	-0.20	83.17	-0.22	-0.97	LA
TG8LLG		84.13	0.14	0.44	83.36	-0.03	-0.12	TL
VFMLHH		83.94	-0.04	-0.13	83.26	-0.13	-0.57	LS
XFCUHW		83.32	-0.66	-2.01	83.00	-0.39	-1.76	TC
XR4JBB		84.17	0.19	0.58	83.46	0.06	0.29	TC
YQQBM9	X	84.91	0.93	2.82	84.36	0.97	4.33	LA
YUEKYV		84.24	0.26	0.78	83.58	0.18	0.83	EF
ZAZPH9		84.00	0.02	0.06	83.38	-0.01	-0.05	TC
ZC6DXX		84.31	0.33	1.00	83.59	0.19	0.87	TC
ZMNRYF		83.28	-0.71	-2.14	83.07	-0.32	-1.44	TC

Summary Statistics

	Sample GR39	Sample GR40
Grand Means	83.981 Percent	83.390 Percent
SD Btwn Labs	0.330 Percent	0.224 Percent

Statistics based on 29 of 31 reporting participants

Comments on Assigned Data Flags for Test #392

YQQBM9 (X) - Data for both samples are high.

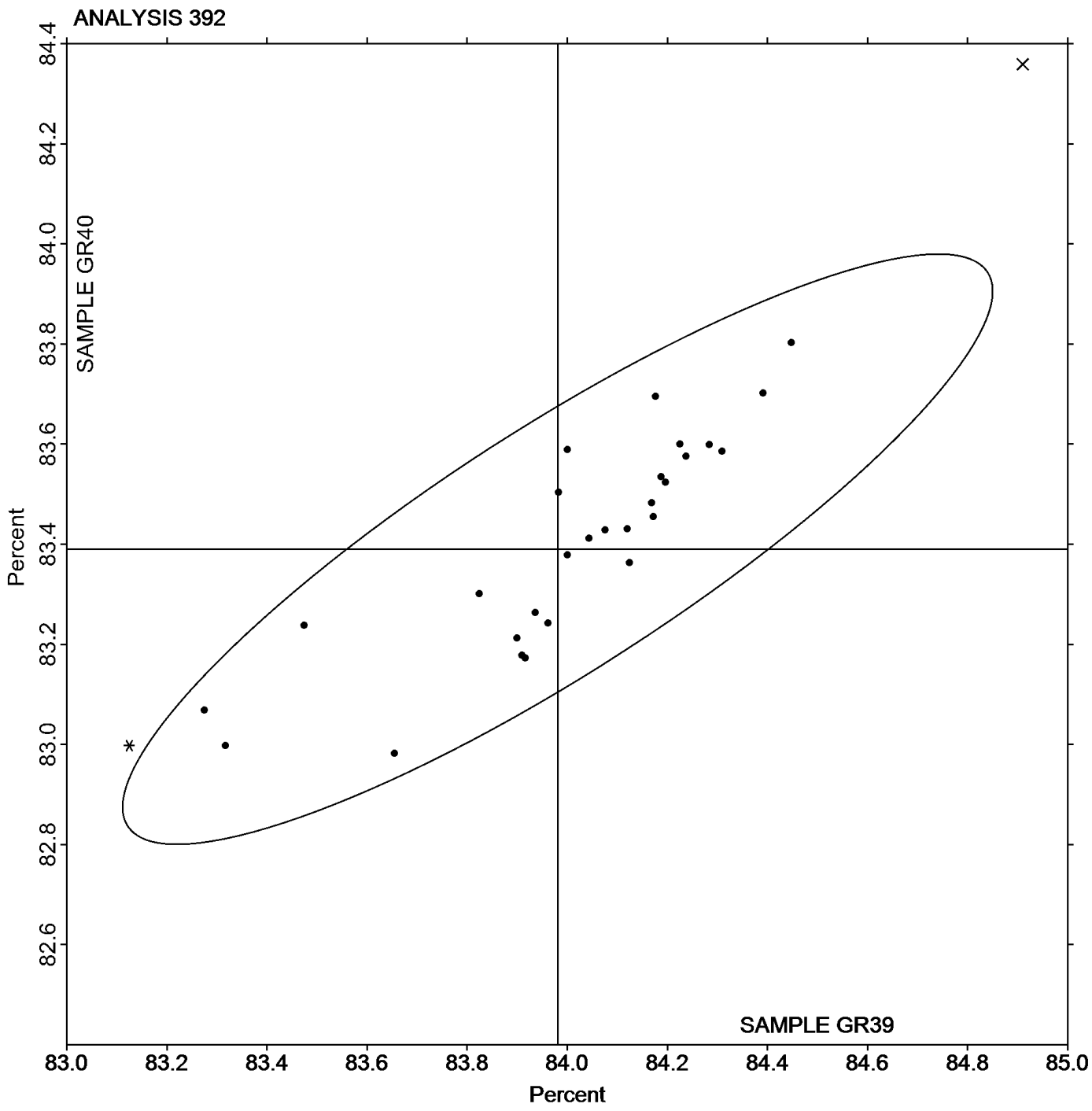
PRX7EH (X) - Data for sample GR39 are high. Inconsistent within the determinations of both samples.

Key to Instrument Codes Reported by Participants			
EE	Datacolor Elrepho 2000	EF	Datacolor Elrepho 3000
EG	Datacolor Elrepho 450X	LA	L & W Elrepho - Autoline
LS	L & W Elrepho SE 070	LT	L & W Elrepho SE 071
PP	Technidyne Profile/Plus	TC	Technidyne Color Touch Series
TL	Technidyne Technibrite TB-1	TM	Technidyne Technibrite Micro TB-1C

Paper & Paperboard Interlaboratory Testing Program
Analysis 392
Diffuse Brightness

Grand Mean Sample **GR39** = 83.981 Percent

Grand Mean Sample **GR40** = 83.390 Percent



Paper & Paperboard Interlaboratory Testing Program
Analysis 394
Fluorescent Component of Directional Brightness

WebCode	Data Flag	Sample GZ39 Lab Mean	Sample GZ39 Diff from Grand Mean	Sample GZ39 CPV	Sample GZ40 Lab Mean	Sample GZ40 Diff from Grand Mean	Sample GZ40 CPV	Instr Code
4KQHGA		3.484	-0.113	-0.44	7.972	-0.141	-0.46	TS
8J2HR2		3.712	0.115	0.45	8.346	0.233	0.76	TS
FV88JW		3.454	-0.143	-0.55	7.870	-0.243	-0.80	TS
G8XFJB		3.660	0.063	0.25	8.208	0.095	0.31	TS
GYNTRA	X	5.142	1.545	6.00	11.456	3.343	10.93	EF
KYW6ZP		4.040	0.443	1.72	8.580	0.467	1.53	TT
WGAMXP		3.116	-0.481	-1.87	7.552	-0.561	-1.83	XX
XHHE7W		3.552	-0.045	-0.17	8.224	0.111	0.36	PP
Y3LHJR		3.814	0.217	0.84	8.308	0.195	0.64	TS
ZMK6L9		3.540	-0.057	-0.22	7.960	-0.153	-0.50	TS

Summary Statistics

	Sample GZ39	Sample GZ40
Grand Means	3.5969 Percent	8.1133 Percent
SD Btwn Labs	0.2575 Percent	0.3059 Percent

Statistics based on 9 of 10 reporting participants

Comments on Assigned Data Flags for Test #394

GYNTRA (X) - Extreme Data.

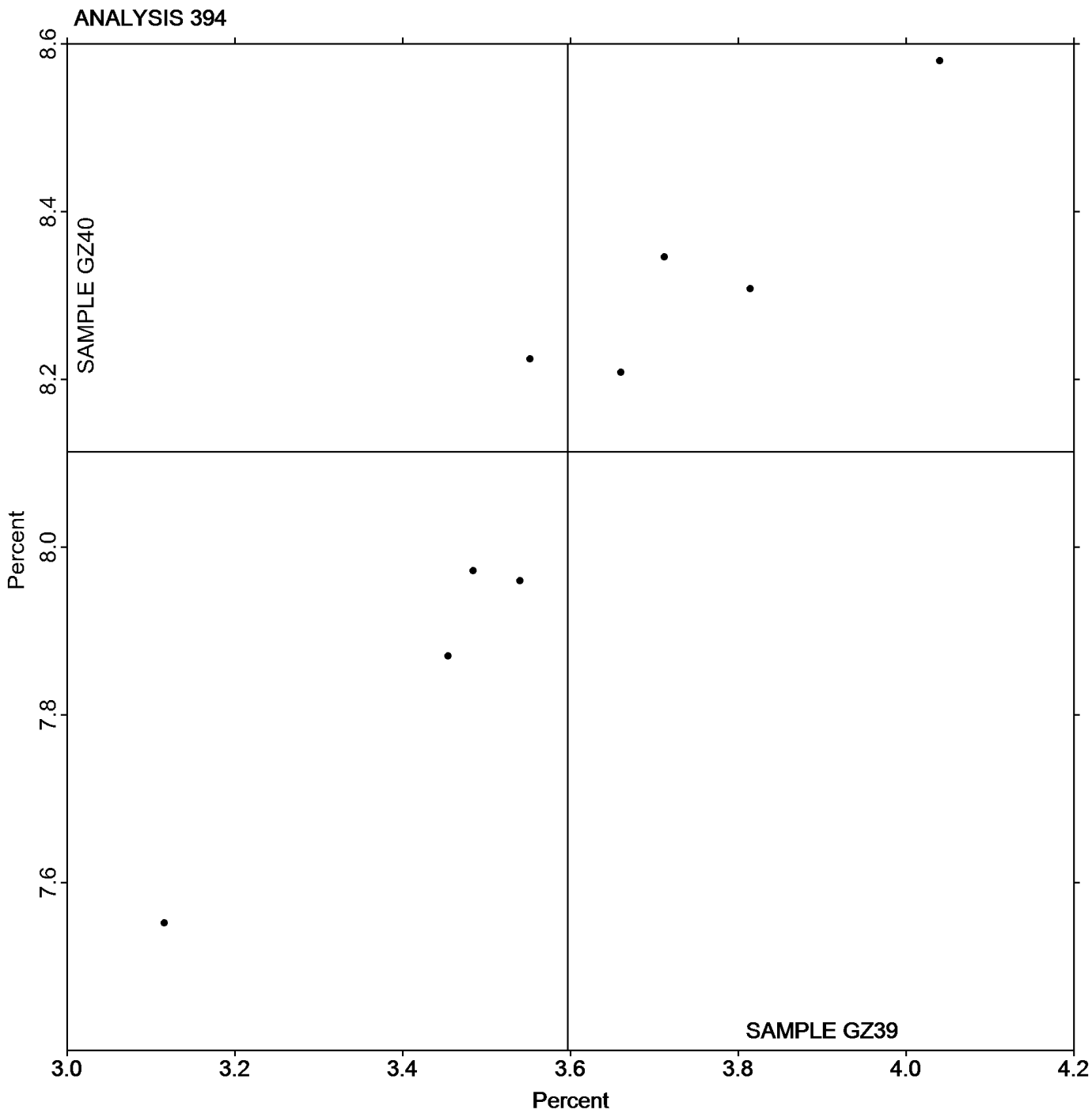
Key to Instrument Codes Reported by Participants

EF	Datacolor Elrepho 3000	PP	Technidyne Profile/Plus
TS	Technidyne Brightimeter Micro S-5	TT	Technidyne Brightimeter Micro S4-M
XX	Instrument make/model not specified by lab		

Paper & Paperboard Interlaboratory Testing Program
Analysis 394
Fluorescent Component of Directional Brightness

Grand Mean Sample **GZ39** = 3.5969 Percent

Grand Mean Sample **GZ40** = 8.1133 Percent



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

WebCode	Data Flag	Sample GT39 Lab Mean	Sample GT39 Diff from Grand Mean	Sample GT39 CPV	Sample GT40 Lab Mean	Sample GT40 Diff from Grand Mean	Sample GT40 CPV	Instr Code
4KQHGA	*	67.36	-0.16	-0.15	78.59	1.88	1.52	LA
9GCEYU		67.49	-0.03	-0.03	77.55	0.84	0.68	TH
AGA76Z		68.52	1.00	0.89	77.15	0.44	0.36	TH
C24UM7		67.05	-0.47	-0.42	76.73	0.02	0.02	LB
CWCM4X		68.44	0.92	0.82	77.67	0.96	0.78	LA
DBCLRV		69.62	2.10	1.87	78.74	2.03	1.65	TG
EH89WZ		66.09	-1.43	-1.28	74.89	-1.82	-1.47	ZH
GEFQT6		69.36	1.83	1.63	77.32	0.61	0.50	TG
H7GKD9		68.00	0.48	0.43	76.59	-0.12	-0.09	TH
KELCWN		67.57	0.05	0.04	76.46	-0.25	-0.20	GM
LV7HHL		65.65	-1.87	-1.67	74.69	-2.02	-1.63	XX
M4ECCE		67.87	0.35	0.31	77.54	0.83	0.67	TH
PRX7EH		67.64	0.12	0.10	76.68	-0.03	-0.02	TH
T7YBTW		67.24	-0.28	-0.25	76.23	-0.48	-0.39	LA
TG8LLG		65.40	-2.12	-1.89	74.55	-2.16	-1.74	GS
WEKGDT		67.48	-0.04	-0.04	76.24	-0.47	-0.38	VM
XHHE7W		68.01	0.49	0.43	77.73	1.02	0.83	PP
ZYH7XC		66.63	-0.89	-0.80	75.36	-1.35	-1.09	PP

Summary Statistics

	Sample GT39	Sample GT40
Grand Means	67.523 Gloss Units	76.706 Gloss Units
SD Btwn Labs	1.121 Gloss Units	1.236 Gloss Units

Statistics based on 18 of 18 reporting participants

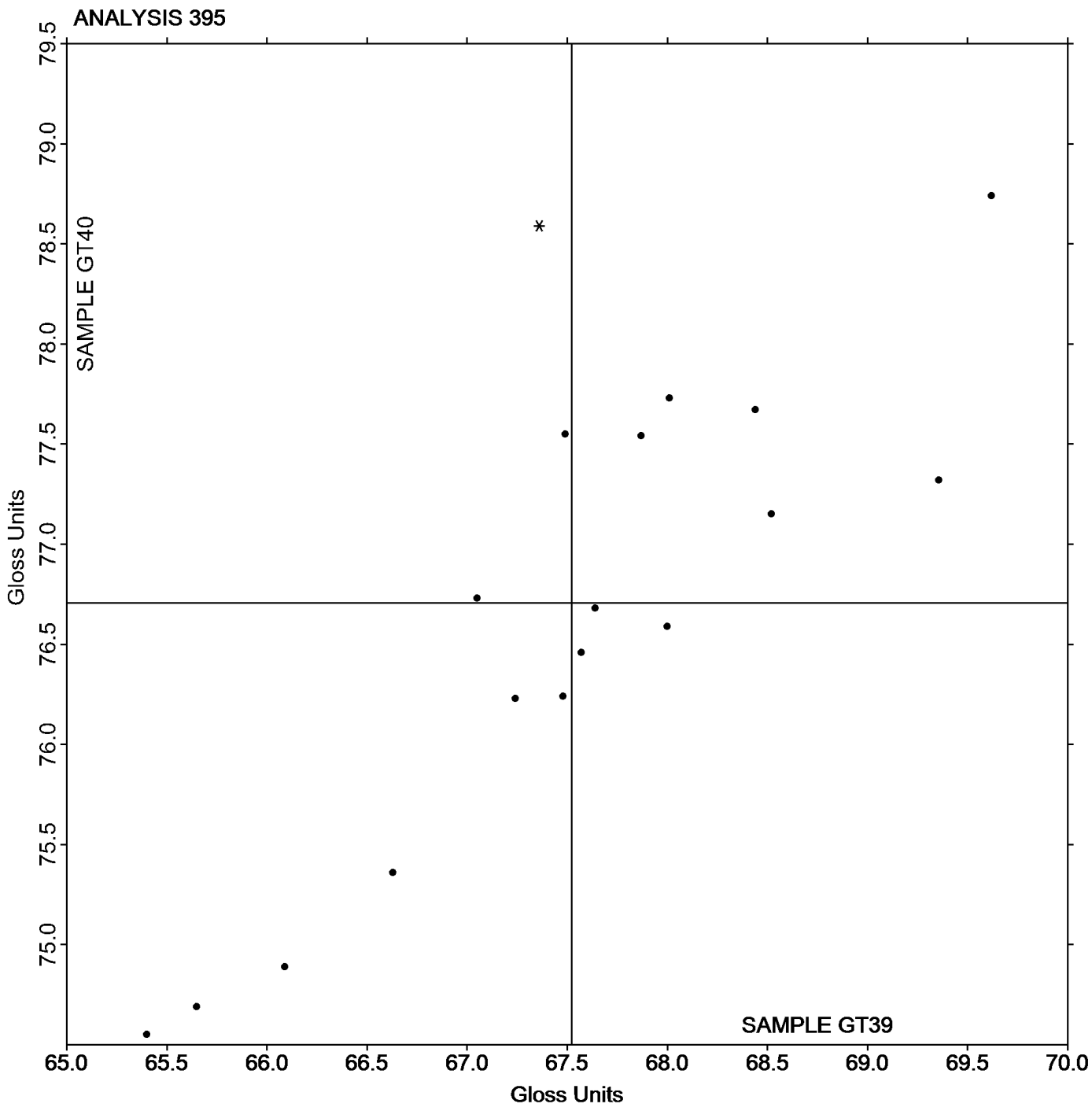
Key to Instrument Codes Reported by Participants

GM	BYK-Gardner micro-gloss	GS	BYK-Gardner Glossgard II
LA	L & W Gloss - Autoline 300	LB	L & W Gloss Tester Code 224
PP	Technidyne Profile/Plus	TG	Technidyne T480
TH	Technidyne T480A	VM	Valmet PaperLab (was Kajaani/Robotest)
XX	Instrument make/model not specified by lab	ZH	Zehntner ZLR 1050

Paper & Paperboard Interlaboratory Testing Program
Analysis 395
Specular Gloss at 75 Degrees - High Range

Grand Mean Sample **GT39** = 67.523 Gloss Units

Grand Mean Sample **GT40** = 76.706 Gloss Units



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

WebCode	Data Flag	Sample GU39 Lab Mean	Sample GU39 Diff from Grand Mean	Sample GU39 CPV	Sample GU40 Lab Mean	Sample GU40 Diff from Grand Mean	Sample GU40 CPV	Instr Code
BWFPGX		41.97	-1.03	-0.88	26.17	-0.47	-0.87	PP
C24UM7	X	40.72	-2.28	-1.95	40.91	14.27	26.32	LA
DBCLRV		42.83	-0.17	-0.15	27.01	0.37	0.67	TG
GYNTRA		43.78	0.78	0.67	26.26	-0.38	-0.70	TG
J2LBKM		43.79	0.79	0.67	26.10	-0.54	-1.00	TH
MG3FF6		41.82	-1.18	-1.01	27.19	0.55	1.01	TH
MTJ3TC		43.70	0.70	0.60	26.75	0.10	0.19	TH
QPQ9ML		41.42	-1.58	-1.35	26.16	-0.48	-0.89	XX
ZC6DXX		44.70	1.70	1.45	27.49	0.85	1.57	TH

Summary Statistics

	Sample GU39	Sample GU40
Grand Means	43.001 Gloss Units	26.640 Gloss Units
SD Btwn Labs	1.171 Gloss Units	0.542 Gloss Units

Statistics based on 8 of 9 reporting participants

Comments on Assigned Data Flags for Test #396

C24UM7 (X) - Extreme Data for Sample GU40.

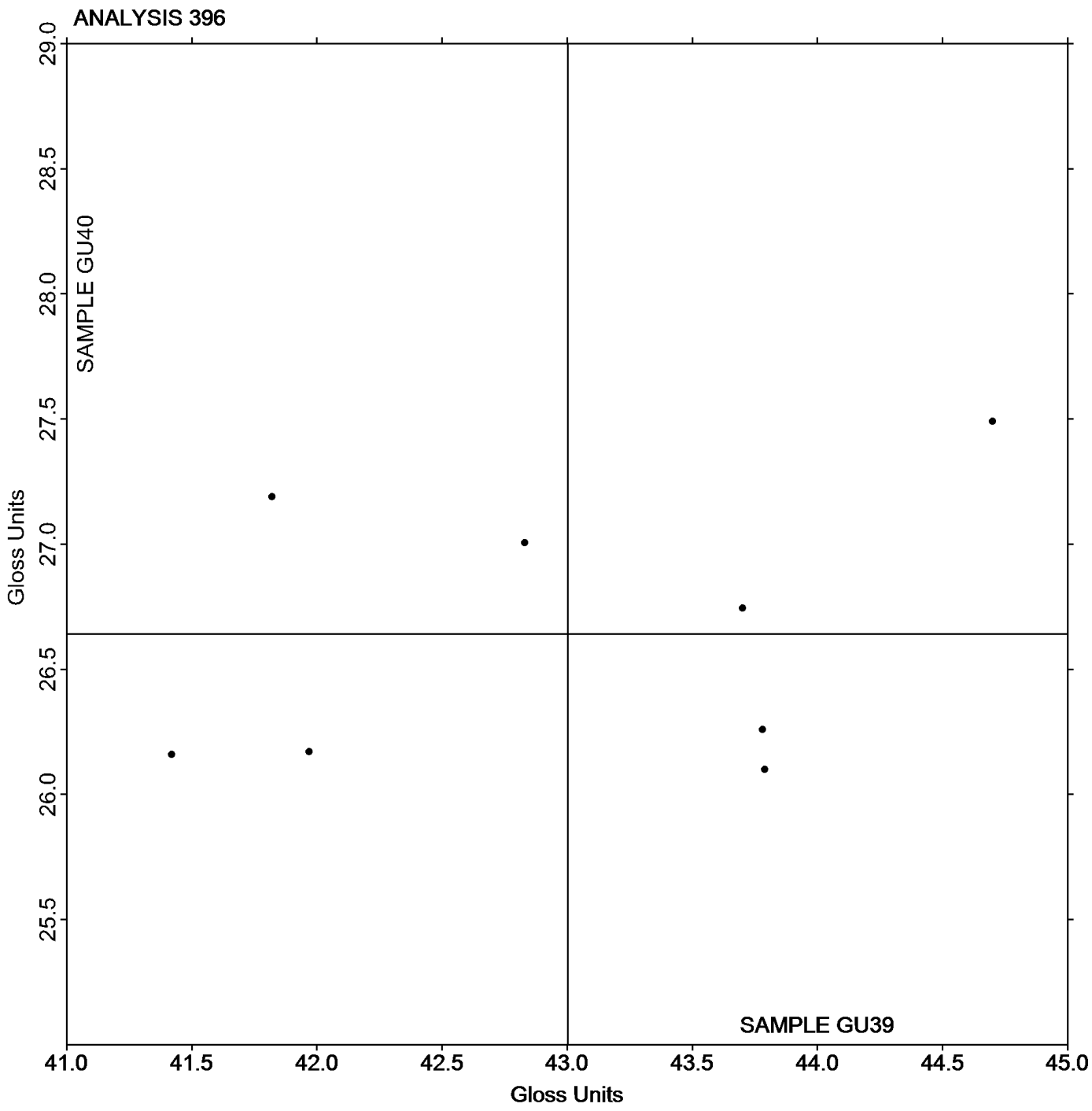
Key to Instrument Codes Reported by Participants

LA	L & W Gloss - Autoline 300	PP	Technidyne Profile/Plus
TG	Technidyne T480	TH	Technidyne T480A
XX	Instrument make/model not specified by lab		

Paper & Paperboard Interlaboratory Testing Program
Analysis 396
Specular Gloss at 75 Degrees - Low Range

Grand Mean Sample **GU39** = 43.001 Gloss Units

Grand Mean Sample **GU40** = 26.640 Gloss Units



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)

WebCode	Data Flag	Sample GW39 Lab Mean	Sample GW39 Diff from Grand Mean	Sample GW39 CPV	Sample GW40 Lab Mean	Sample GW40 Diff from Grand Mean	Sample GW40 CPV
2FK6NQ		72.16	-0.24	-0.50	85.54	-0.31	-0.68
346FMZ		71.73	-0.67	-1.40	85.84	-0.01	-0.01
7EXXQY		72.27	-0.13	-0.28	86.03	0.18	0.41
8J2HR2		72.62	0.22	0.46	86.37	0.52	1.16
B784HH		72.81	0.41	0.86	86.34	0.50	1.10
C24UM7		72.24	-0.16	-0.33	85.46	-0.38	-0.85
CRJHBU		72.10	-0.30	-0.63	85.85	0.00	0.00
D2L3AF		72.11	-0.29	-0.60	85.55	-0.30	-0.67
DP88UG	X	73.10	0.70	1.47	87.91	2.06	4.57
FAPWHY	*	72.48	0.08	0.17	84.83	-1.02	-2.25
GYNTRA		71.70	-0.70	-1.46	85.30	-0.55	-1.21
J2LBKM		72.73	0.33	0.68	86.15	0.31	0.68
J86EP4		72.37	-0.03	-0.07	85.68	-0.17	-0.37
KFE6R7		72.63	0.23	0.48	86.24	0.39	0.86
MTJ3TC	*	71.10	-1.30	-2.70	85.14	-0.71	-1.57
QCFV4Z		72.39	-0.01	-0.02	85.27	-0.58	-1.28
QPQ9ML		72.87	0.47	0.97	86.16	0.31	0.69
R6U6EJ		72.68	0.28	0.59	86.41	0.56	1.25
RRAPBK		72.47	0.07	0.15	85.74	-0.11	-0.24
RVMRVU		72.29	-0.11	-0.23	85.70	-0.15	-0.32
T8FBAZ	*	73.71	1.31	2.74	86.04	0.19	0.42
VFMLHH		72.50	0.10	0.21	85.92	0.07	0.16
VRT32R		72.51	0.11	0.23	85.60	-0.25	-0.55
YFBJXD		72.75	0.35	0.74	86.32	0.47	1.05
YHXXLN		72.68	0.28	0.59	86.78	0.93	2.06
ZC6DXX		72.52	0.12	0.25	86.14	0.29	0.64
ZVG39B		71.97	-0.43	-0.90	85.63	-0.21	-0.47

Summary Statistics

	Sample GW39	Sample GW40
Grand Means	72.399 g/sq m	85.847 g/sq m
SD Btwn Labs	0.479 g/sq m	0.452 g/sq m

Statistics based on 26 of 27 reporting participants

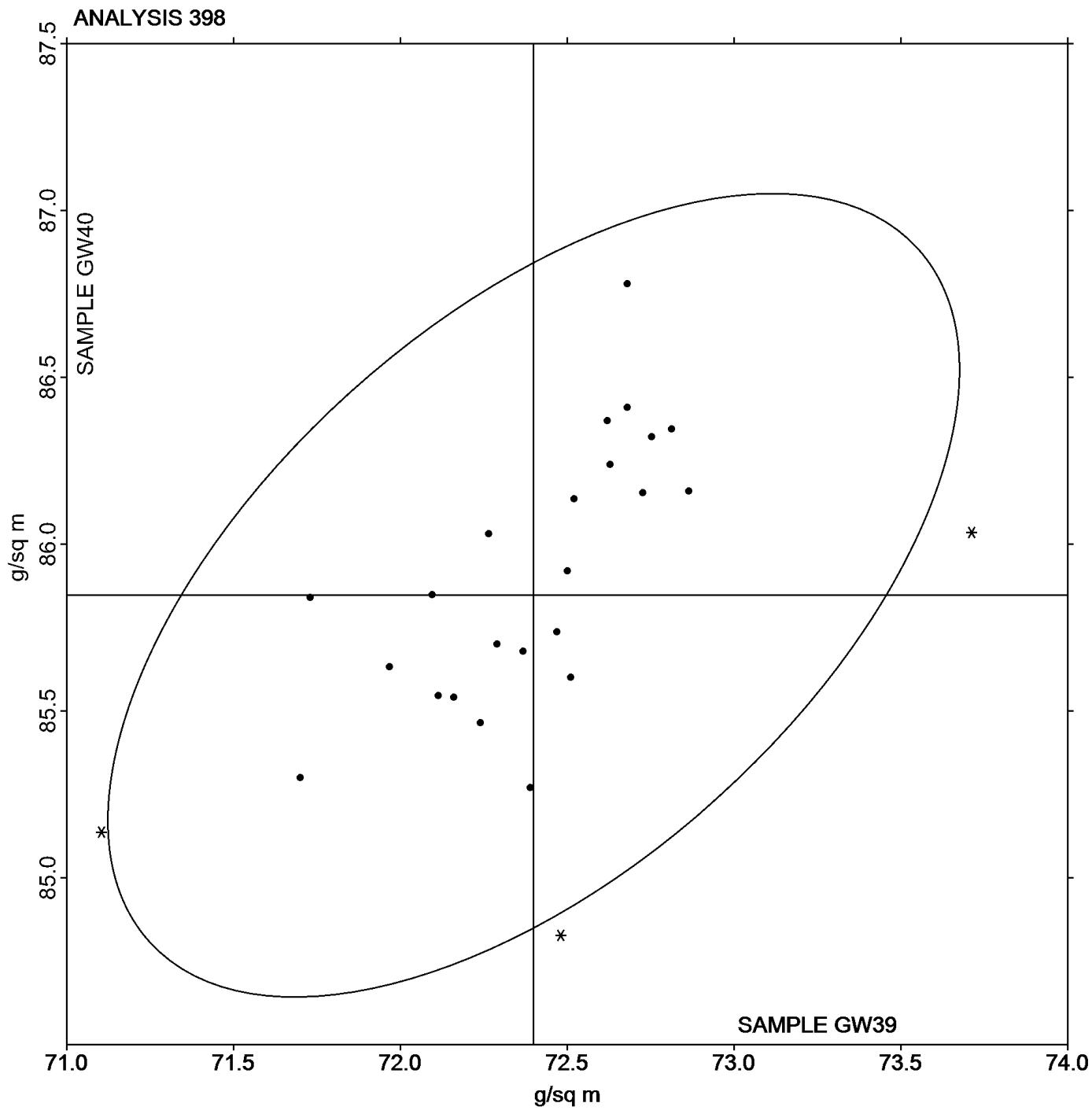
Comments on Assigned Data Flags for Test #398

DP88UG (X) - Data for sample GW40 are high. Inconsistent within the determinations of sample GW40.

Paper & Paperboard Interlaboratory Testing Program
Analysis 398
Grammage (Mass per Unit Area)

Grand Mean Sample **GW39** = 72.399 g/sq m

Grand Mean Sample **GW40** = 85.847 g/sq m



Paper & Paperboard Interlaboratory Testing Program
Analysis 399
Sizing Test (Hercules Type)

WebCode	Data Flag	Sample GX39 Lab Mean	Sample GX39 Diff from Grand Mean	Sample GX39 CPV	Sample GX40 Lab Mean	Sample GX40 Diff from Grand Mean	Sample GX40 CPV
2FK6NQ		12.80	-6.19	-0.96	11.40	-10.38	-1.24
38LZ8V		21.73	2.74	0.43	27.56	5.78	0.69
4KQHGA		16.24	-2.75	-0.43	17.07	-4.71	-0.56
9YUDYL		9.30	-9.69	-1.50	12.10	-9.68	-1.16
BWFPGX		9.81	-9.18	-1.43	13.40	-8.38	-1.00
CYFHLF		15.59	-3.40	-0.53	21.91	0.13	0.02
DTP9BH		21.00	2.01	0.31	31.80	10.02	1.20
EMWKXN		18.49	-0.50	-0.08	16.99	-4.79	-0.57
ETL3CY		22.96	3.97	0.62	19.04	-2.74	-0.33
FV88JW		19.81	0.82	0.13	17.72	-4.06	-0.49
G8XFJB		14.21	-4.78	-0.74	13.31	-8.47	-1.01
H7GKD9		13.53	-5.46	-0.85	16.36	-5.42	-0.65
J86EP4		28.21	9.22	1.43	29.70	7.92	0.95
KELCWN		15.90	-3.09	-0.48	24.90	3.12	0.37
KXDDQ6		20.71	1.72	0.27	18.10	-3.68	-0.44
MLWD8G		9.10	-9.89	-1.54	15.10	-6.68	-0.80
NZWCUD	*	29.59	10.60	1.65	44.16	22.38	2.68
QJX7G2		21.12	2.13	0.33	25.14	3.36	0.40
RVMRVU	X	3.60	-15.39	-2.39	513.60	491.82	58.85
T7YBTW		10.64	-8.35	-1.30	14.96	-6.82	-0.82
T8VR8E		27.28	8.29	1.29	23.31	1.53	0.18
VKW3Q7		25.60	6.61	1.03	35.85	14.07	1.68
WAU2R8		18.70	-0.29	-0.05	16.16	-5.62	-0.67
XALGG9		22.71	3.72	0.58	27.84	6.06	0.73
Y3LHJR		16.90	-2.09	-0.32	19.56	-2.22	-0.27
ZC6DXX		24.43	5.44	0.84	23.07	1.29	0.15
ZMK6L9		32.80	13.81	2.14	36.80	15.02	1.80
ZYH7XC		13.62	-5.37	-0.83	14.71	-7.07	-0.85

Summary Statistics

	Sample GX39	Sample GX40
Grand Means	18.992 Seconds	21.778 Seconds
SD Btwn Labs	6.440 Seconds	8.357 Seconds

Statistics based on 27 of 28 reporting participants

Comments on Assigned Data Flags for Test #399

RVMRVU (X) - Extreme Data for Sample GX40.

Paper & Paperboard Interlaboratory Testing Program
Analysis 399
Sizing Test (Hercules Type)

Grand Mean Sample **GX39** = 18.992 Seconds

Grand Mean Sample **GX40** = 21.778 Seconds