Collaborative Testing Services, Inc.

Paper & PaperboardTesting Program

Summary Report #244G-February 2010

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.

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

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Sterling, Virginia 20166 USA
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(Toll-free fax within the U.S.: 1-866-fax-2cts)
Office Hours: 8:00 a.m. - 4:30 p.m. ET

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.

Instrument Manufacturer Contacts

If your data results have been flagged with an "X" and you suspect that the problem is with your instrument (and not your testing procedure), CTS urges you to contact the appropriate instrument manufacturer. CTS has asked manufacturers to supply a contact person who is familiar with the Paper, Paperboard & Corrugated Fiberboard Interlaboratory Program. The listed service contact should be able to work with you on evaluating your results and determining possible causes of the problem.

Technidyne Corp., Hagerty Div.
George Hagerty
287 Dix Ave. P.O. Box 4741
Queensbury, NY 12804
Phone: (518) 793-2834
FAX #: (518) 792-1796

Technidyne Corporation
Jeff Hobbs / Mike Lakins
100 Quality Avenue
New Albany, IN 47150-2272 USA
Phone: (812) 948-2884
FAX #: (812) 945-6847

Thwing Albert Instrument Co.
Jack Mirkowski, Service Contact
David Zarrilli, Sales Contact
10960 Dutton Road
Philadelphia, PA 19154
Phone: (215) 637-0100
FAX #: (215) 632-8370

Testing Machines Inc.
Michael Foran, Technical Support Engineer
2910 Expressway Drive South
Islandia, NY 11722
Phone: (631) 439-5400
FAX #: (631) 439-5420

Huygen Corporation
Richard Wade
P.O. Box 316
Waconda, IL 60084
Phone: (815) 455-2200
FAX #: (815) 455-2300

Hercules, Inc.
Steven R. Boone
7510 Baymeadows Way
Jacksonville, FL 32256-7524
Phone: (904) 732-3136
FAX #: (904) 448-4995

Lorentzen & Wettre USA Inc.
Bill Crain, Technical Manager
1055 Windward Ridge Pkwy
Suite 160
Alpharetta, GA 30005
Phone: (770) 442-8015 ext 232
FAX #: (770) 442-6792

Valmet Inc.
Eeva Nettamo, Product Manager Paper Testing
3100 Medlock Bridge Road - Suite 260
Norcross, GA 30071
Phone: (770) 448-0849
FAX #: (770) 242-8386

Gurley Precision Instruments
Martin Gordinier, Product Manager
P.O. Box 88
Troy, NY 12181-0088
Phone: (800) 759-1844
FAX #: (518) 274-0336

Hunter Associates Lab, Inc.
Mary Ellen Zuyus
11491 Sunset Hills Road
Reston, VA 22090
Phone: (703) 471-6870 ext. 222
FAX #: (703) 471-4237

BYK-Gardner
Randy Snavely
9104 Guilford Road
Columbia, MD 21046-2729
Phone: (301) 483-6500
FAX #: (301) 483-6555

Emveco Inc.
Donald L. Stradley
113 North Blaine, P.O. Box 16
Newburg, OR 97132-0016
Phone: (503) 538-8616
FAX #: (503) 538-0912

Applied Paper Technology Inc.
Vann Parker, President
555 14th Street, NW
Atlanta, GA 30318
Phone: (404) 881-9801
FAX #: (404) 881-0862
appliedpapertech@mindspring.com

TAPPI-CTS Interlaboratory Testing Program

Analysis 350

Color & Color Difference - Near White Papers - C/2deg ob **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	
26WXF2		GA53	90.45	-0.60	2.91	0.03	0.02	-0.02	0.04	TS
		GA54	90.48	-0.58	2.89					
2QK6F4		GA53	90.00	-0.66	3.13	-0.12	0.01	0.00	0.12	MK
		GA54	89.89	-0.65	3.13					
2T2JHP		GA53	89.90	-0.81	3.09	0.00	-0.01	0.04	0.04	EH
		GA54	89.90	-0.82	3.13					
4VQLVV		GA53	89.38	-0.61	2.96	-0.03	0.01	0.00	0.03	HH
		GA54	89.35	-0.60	2.96					
4YBHHZ		GA53	91.83	-0.76	2.79	-0.03	-0.01	-0.05	0.06	XS
		GA54	91.80	-0.77	2.74					
6UE9RY		GA53	89.46	-0.57	2.90	-0.06	0.00	0.02	0.06	TS
		GA54	89.41	-0.57	2.91					
A6NLB4		GA53	89.81	-0.39	2.94	-0.02	-0.04	0.02	0.05	TM
		GA54	89.79	-0.44	2.96					
AE9UVQ		GA53	90.85	-0.77	3.02	0.01	0.03	-0.01	0.03	HH
		GA54	90.87	-0.74	3.01					
CJNJQK		GA53	92.02	-0.73	3.26	-0.02	-0.07	0.02	0.07	EH
		GA54	92.00	-0.79	3.28					
DNCNV9		GA53	89.93	-0.79	3.39	0.01	-0.01	0.00	0.01	TC
		GA54	89.94	-0.80	3.40					
DR7ZHK		GA53	89.82	-0.68	3.24	0.04	0.02	0.00	0.05	TB
		GA54	89.86	-0.66	3.24					
EFW6DU		GA53	90.01	-0.83	3.30	-0.03	0.00	0.02	0.04	TC
		GA54	89.98	-0.84	3.32					
F792WZ		GA53	90.41	-0.75	3.30	-0.07	-0.02	0.05	0.09	TP
		GA54	90.35	-0.77	3.35					
FBTBHP	X	GA53	89.10	-1.81	5.05	0.12	-0.01	0.01	0.12	HG
		GA54	89.22	-1.82	5.06					
JNE4V3		GA53	89.90	-0.75	3.20	0.08	-0.01	0.01	0.08	TC
		GA54	89.98	-0.76	3.21					
KHQK7X		GA53	91.94	-0.82	3.14	0.03	0.00	0.01	0.04	EF
		GA54	91.98	-0.82	3.15					
MFGJKW		GA53	89.84	-0.46	3.01	0.00	-0.05	0.08	0.10	TM
		GA54	89.84	-0.51	3.09					

TAPPI-CTS Interlaboratory Testing Program

Analysis 350

Color & Color Difference - Near White Papers - C/2deg ob **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	
NWGEEU		GA53	90.35	-0.76	3.26	-0.03	0.00	-0.02	0.04	HV
		GA54	90.31	-0.76	3.24					
P89TRQ		GA53	91.43	-0.87	2.96	0.00	0.00	-0.02	0.02	LA
		GA54	91.43	-0.86	2.94					
PFNPGX		GA53	89.56	-0.23	2.71	-0.06	0.02	-0.01	0.06	TS
		GA54	89.50	-0.22	2.70					
PZPLAL		GA53	91.99	-0.81	3.20	-0.07	0.02	-0.01	0.07	EH
		GA54	91.93	-0.79	3.19					
QG3CZN		GA53	89.75	-0.84	2.76	0.07	-0.03	0.06	0.09	HH
		GA54	89.82	-0.87	2.81					
RUTJGP		GA53	92.28	-0.77	3.28	-0.04	0.00	0.02	0.04	MI
		GA54	92.24	-0.77	3.29					
TYXJE9		GA53	89.94	-0.73	2.68	-0.06	-0.01	0.01	0.06	ET
		GA54	89.88	-0.74	2.69					
VKGCJD		GA53	89.96	-0.83	3.34	-0.04	0.00	-0.02	0.04	LS
		GA54	89.92	-0.83	3.32					
VVFW9K		GA53	90.13	-0.53	2.94	-0.02	0.04	0.01	0.05	TS
		GA54	90.11	-0.49	2.95					
WDRJYK		GA53	89.20	-0.24	2.86	-0.05	0.04	0.00	0.06	TS
		GA54	89.15	-0.20	2.86					
XBLVC8		GA53	90.11	-0.56	2.99	0.00	-0.02	0.01	0.03	TS
		GA54	90.11	-0.58	3.00					
XRQ82C		GA53	90.11	-0.20	2.91	-0.02	-0.07	0.03	0.08	TS
		GA54	90.09	-0.27	2.94					
ZK24KE		GA53	89.85	-0.78	3.20	0.11	-0.01	0.01	0.11	TC
		GA54	89.96	-0.79	3.22					
ZTHZWL		GA53	89.84	-0.94	3.00	-0.01	0.03	0.01	0.03	HH
		GA54	89.84	-0.91	3.01					

TAPPI-CTS Interlaboratory Testing Program

Analysis 350

Color & Color Difference - Near White Papers - C/2deg ob **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

Summary Statistics

Grand Means								
GA53	90.296	-0.669	3.055	-0.012	-0.004	0.009	0.056	
GA54	90.288	-0.673	3.064					
Stnd Dev Btwn Labs								
GA53	0.885	0.195	0.198	0.048	0.027	0.026	0.027	
GA54	0.879	0.192	0.200					

Statistics based on 30 of 31 reporting participants

Comments assigned on Data Flags for Test #350

FBTBHP (X) - Low a values; high b and delta L values.

Instrument Code List as Reported by the Labs

(EF) - Datacolor Elrepho 3000

(EH) - Datacolor Elrepho SF450

(ET) - Datacolor Spectraflash 600

(HG) - Hunter ColorQUEST

(HH) - Hunter D25DP - 9000

(HV) - Hunter Ultrascan XE

(LA) - L & W Elrepho AL300

(LS) - L & W Elrepho SE 070

(MI) - Macbeth Color i 5

(MK) - Macbeth Color-Eye 7000 Spectrophotometer

(TB) - Technidyne Technibrite TB-1C

(TC) - Technidyne Color Touch Series

(TM) - Technidyne Technibrite Micro TB-1C

(TP) - Technidyne Spectro Plus

(TS) - Technidyne Brightimeter Micro S-5

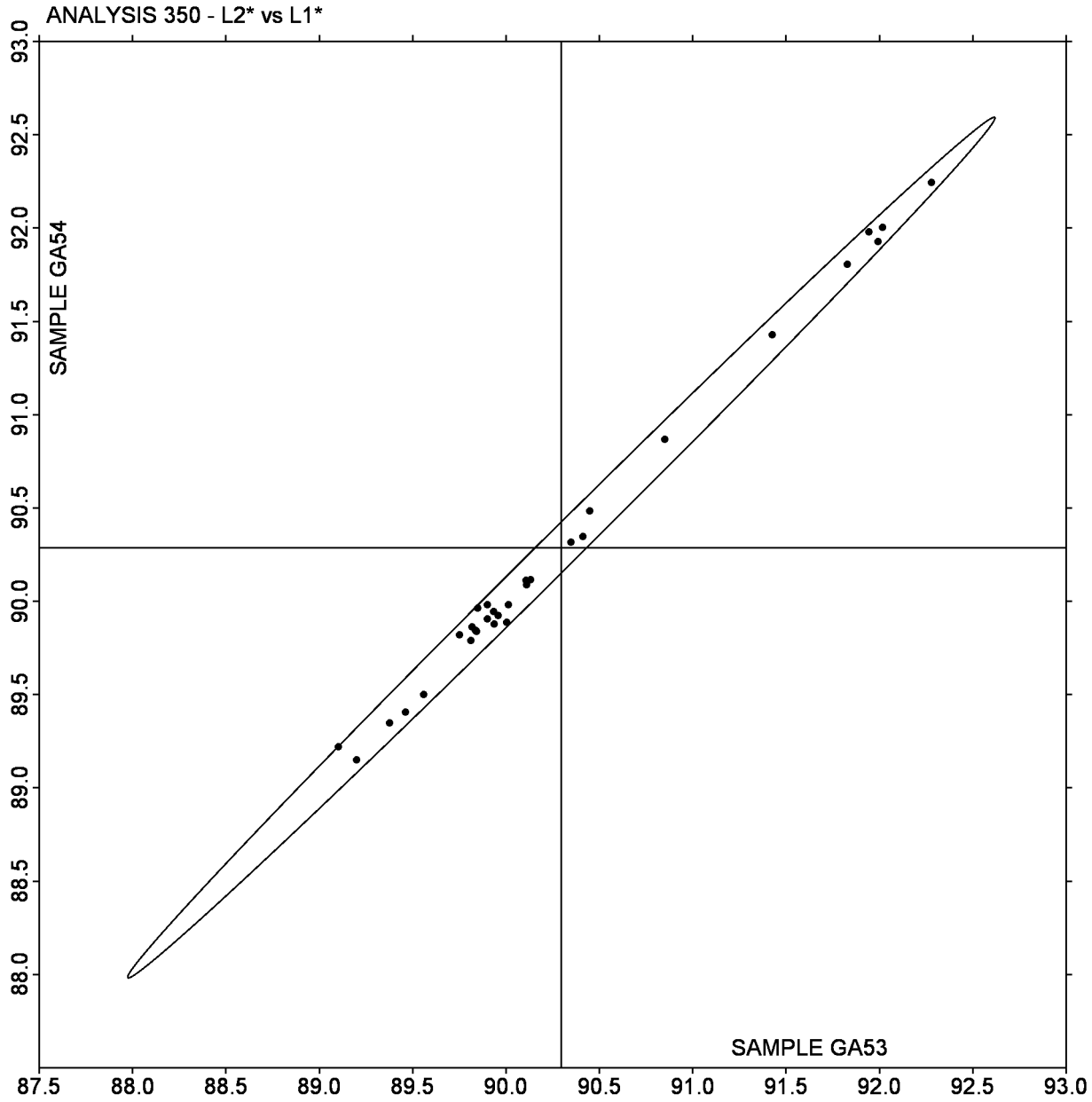
(XS) - X-Rite 938 Spectrodensitometer

TAPPI-CTS Interlaboratory Testing Program

Analysis 350

Color & Color Difference - Near White Papers - C/2deg ob **Hunter L,a,b - Illuminant C - 2 Degree Observer**

Plot of L values GA54 v L values GA53

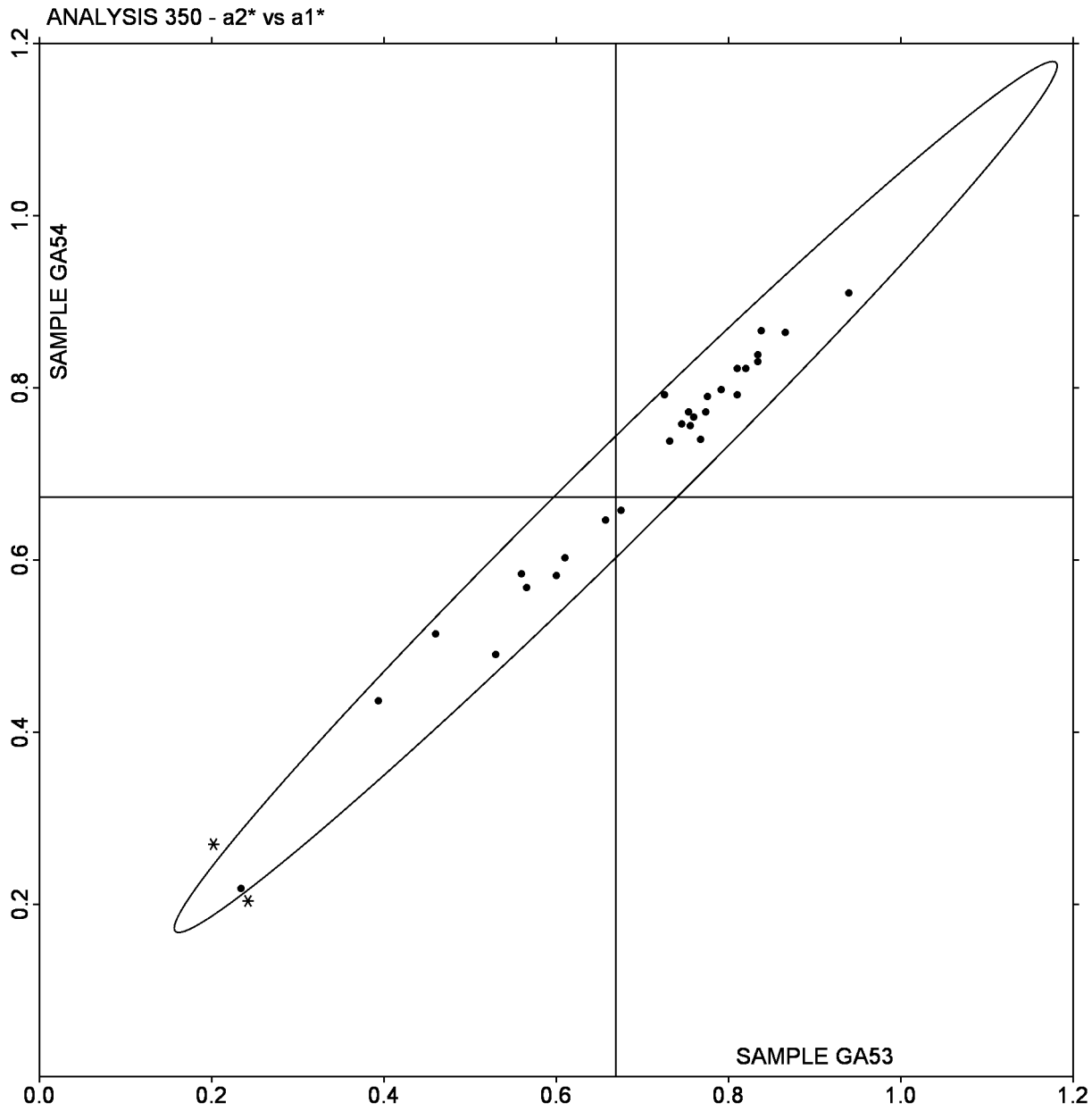


TAPPI-CTS Interlaboratory Testing Program

Analysis 350

Color & Color Difference - Near White Papers - C/2deg ob **Hunter L,a,b - Illuminant C - 2 Degree Observer**

Plot of a values GA54 v a values GA53

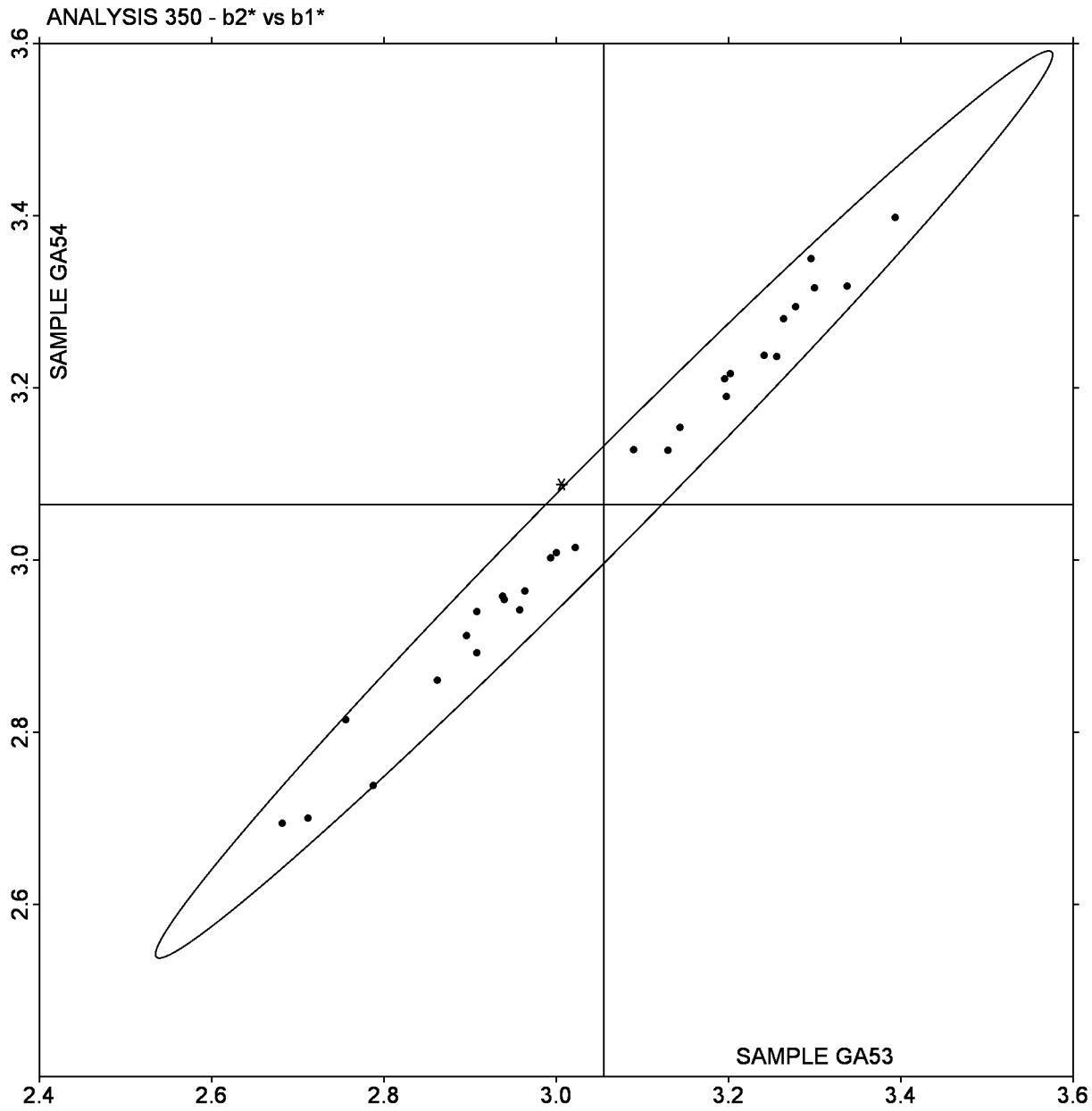


TAPPI-CTS Interlaboratory Testing Program

Analysis 350

Color & Color Difference - Near White Papers - C/2deg ob **Hunter L,a,b - Illuminant C - 2 Degree Observer**

Plot of b values GA54 v b values GA53



TAPPI-CTS Interlaboratory Testing Program

Analysis 351

Color & Color Difference - Near White Papers - D65/10deg **Hunter L,a,b - Illuminant D65 - 10 Degree Observer**

Web Code	F	Samples	Hunter L, a, b Color Values			Color Difference Values					Instr Code
			L	a	b	ΔL	Δa	Δb	ΔE		
3NDWGQ		GA53	90.25	-0.42	3.15	-0.04	0.00	0.00	0.04		XX
		GA54	90.21	-0.42	3.15						
6EFAHH		GA53	89.87	-0.43	3.01	-0.04	0.01	0.00	0.04		TC
		GA54	89.84	-0.42	3.00						
6MDU4C		GA53	90.18	-0.63	2.91	0.00	-0.01	-0.01	0.01		HV
		GA54	90.19	-0.63	2.90						
6WWD3N	X	GA53	90.59	-0.43	3.44	-0.67	0.08	-0.13	0.69	X	MG
		GA54	89.91	-0.36	3.31						
6YC4RR		GA53	89.94	-0.37	3.25	0.03	0.00	-0.02	0.04		XA
		GA54	89.98	-0.38	3.23						
7P6LWE		GA53	91.96	-0.48	3.32	-0.04	0.02	-0.02	0.05		EF
		GA54	91.92	-0.46	3.30						
DWMDNR		GA53	89.30	-0.26	3.15	-0.09	0.00	-0.02	0.10		NF
		GA54	89.21	-0.26	3.13						
E3H9HD		GA53	90.01	-0.43	3.09	-0.12	0.04	-0.05	0.13		HM
		GA54	89.89	-0.39	3.04						
FMEX3Y		GA53	91.85	-0.85	3.30	0.02	0.00	0.00	0.02		LS
		GA54	91.86	-0.85	3.30						
GN9GKX		GA53	91.91	-0.53	3.34	0.08	-0.02	0.05	0.10		HV
		GA54	91.99	-0.55	3.40						
K3ZBTT		GA53	92.97	-0.51	2.70	0.00	-0.03	-0.03	0.04		XP
		GA54	92.98	-0.53	2.67						
L2C4CV		GA53	92.20	-0.78	3.27	-0.02	-0.02	0.04	0.05		PP
		GA54	92.18	-0.80	3.31						
LVENKA		GA53	92.21	-0.45	3.12	-0.07	0.01	-0.02	0.07		TC
		GA54	92.14	-0.44	3.10						
LYVXRL		GA53	92.27	-0.41	3.41	-0.04	0.01	0.00	0.04		XD
		GA54	92.23	-0.41	3.41						
MQZXLD		GA53	89.84	-0.46	2.59	-0.12	0.01	0.01	0.12		ET
		GA54	89.72	-0.46	2.60						
PFR684		GA53	89.74	-0.38	3.11	0.13	-0.02	0.00	0.13		TC
		GA54	89.87	-0.40	3.12						
T6GHCE		GA53	91.97	-0.42	3.48	-0.05	0.00	0.01	0.05		NG
		GA54	91.92	-0.42	3.49						

TAPPI-CTS Interlaboratory Testing Program

Analysis 351

Color & Color Difference - Near White Papers - D65/10deg **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
TFUD7E		GA53	92.48	-0.46	3.28	0.04	0.00	-0.03	0.05	HV
		GA54	92.52	-0.46	3.25					
TLQ673		GA53	91.88	-0.41	3.40	0.14	0.00	0.02	0.14	XX
		GA54	92.02	-0.41	3.42					
UTAVD9		GA53	91.94	-0.45	3.32	0.00	-0.01	0.01	0.01	EH
		GA54	91.94	-0.46	3.33					
VXQR4P		GA53	92.24	-0.32	3.32	-0.06	0.00	0.06	0.08	HG
		GA54	92.18	-0.32	3.38					
WHD4JE		GA53	89.18	-0.34	2.92	0.05	0.02	-0.07	0.09	TM
		GA54	89.23	-0.32	2.85					
X76YMR		GA53	91.89	-0.77	3.39	0.02	0.00	0.01	0.03	HV
		GA54	91.91	-0.78	3.40					
ZMG6DT		GA53	90.64	-0.47	3.39	-0.18	0.01	0.02	0.18	MG
		GA54	90.46	-0.46	3.41					
ZXBPBB		GA53	89.13	-0.29	2.88	0.04	0.01	0.02	0.05	TM
		GA54	89.17	-0.28	2.90					

Summary Statistics

Grand Means							
GA53	91.077	-0.471	3.171	-0.012	0.001	0.000	0.069
GA54	91.065	-0.470	3.171				
Stnd Dev Btwn Labs							
GA53	1.237	0.149	0.234	0.076	0.014	0.030	0.046
GA54	1.246	0.154	0.247				

Statistics based on 24 of 25 reporting participants

Comments assigned on Data Flags for Test #351

6WWD3N (X) - Large delta L and delta E values.

TAPPI-CTS Interlaboratory Testing Program

Analysis 351

Color & Color Difference - Near White Papers - D65/10deg **Hunter L,a,b - Illuminant D65 - 10 Degree Observer**

Instrument Code List as Reported by the Labs

(EF) - Datacolor Elrepho 3000

(EH) - Datacolor Elrepho SF450

(ET) - Datacolor Spectraflash 600

(HG) - Hunter ColorQUEST

(HM) - Hunter MiniScan XE Spectrophotometer

(HV) - Hunter Ultrascan XE

(LS) - L & W Elrepho SE 070

(MG) - Macbeth 1500/PLUS - 2025+ Color Eye

(NF) - Minolta CM-3600d Spectrophotometer

(NG) - Minolta CM-3700d Spectrophotometer

(PP) - Technidyne Profile/Plus

(TC) - Technidyne Color Touch Series

(TM) - Technidyne Brightimeter Model Micro S-5

(XA) - X-Rite (model not specified)

(XD) - X-Rite 530 SpectroDensitometer

(XP) - X-Rite Spectrophotometer DTP

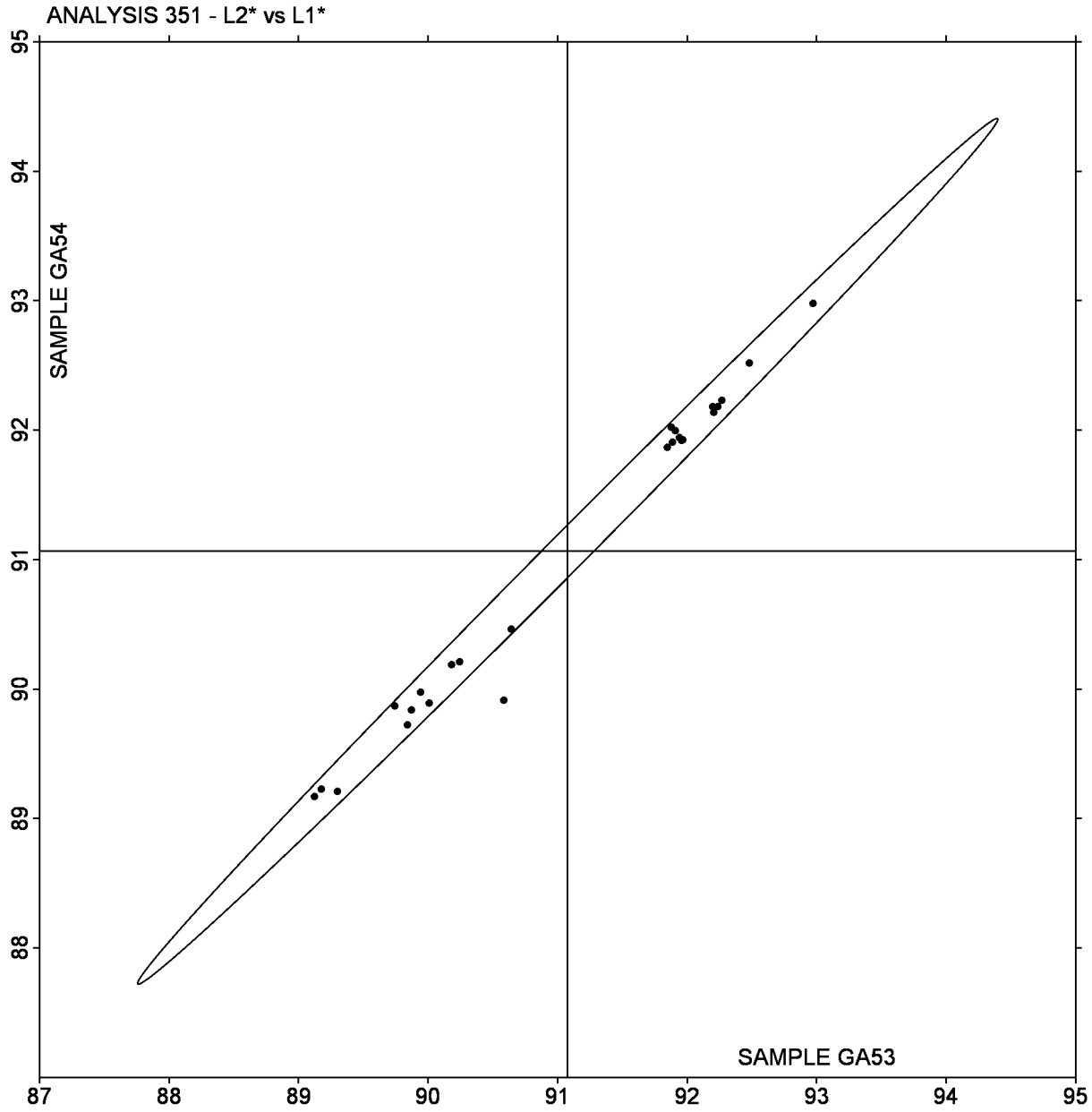
(XX) - Instrument make/model not specified by lab

TAPPI-CTS Interlaboratory Testing Program

Analysis 351

Color & Color Difference - Near White Papers - D65/10deg **Hunter L,a,b - Illuminant D65 - 10 Degree Observer**

Plot of L values GA54 v L values GA53

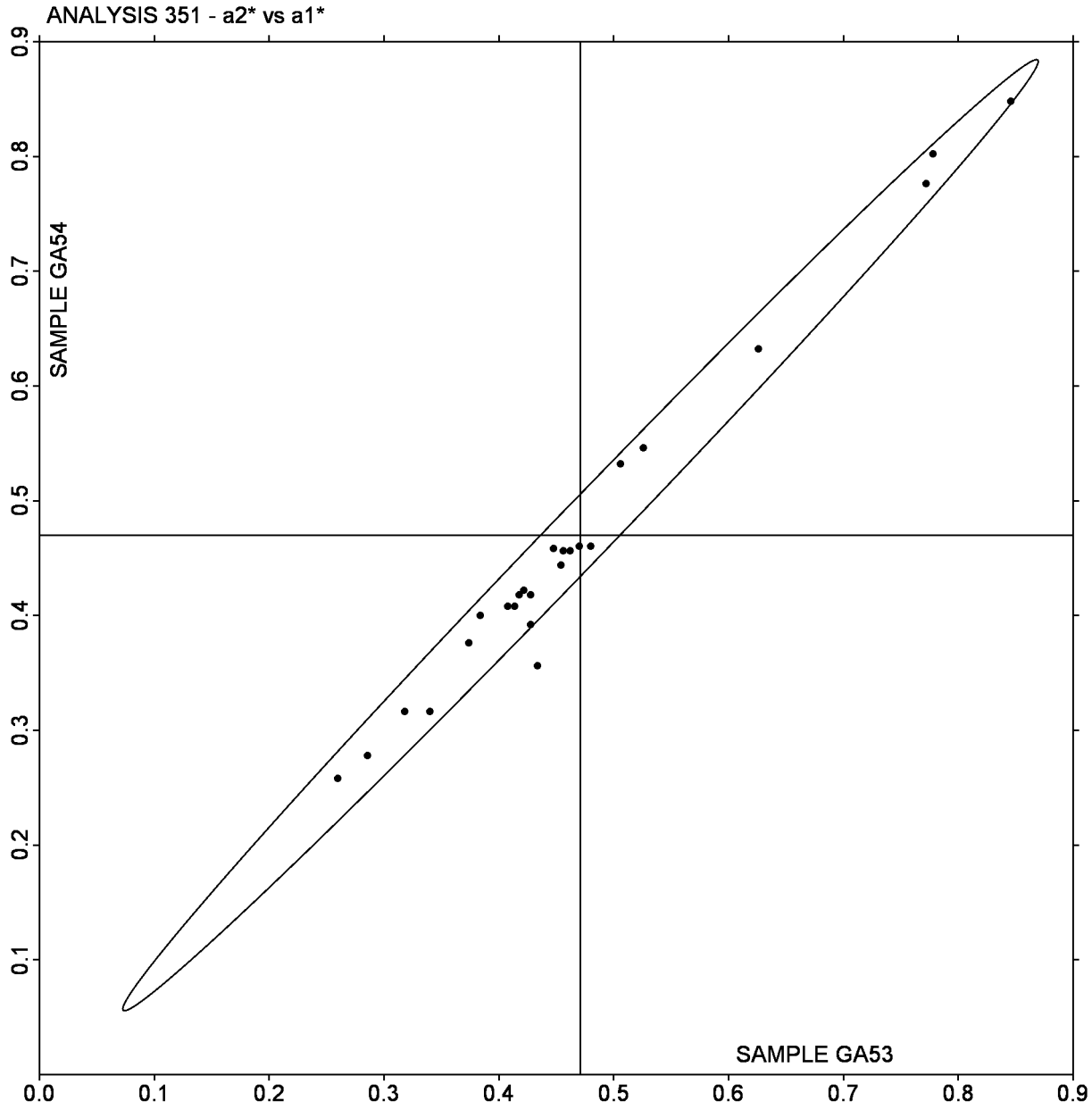


TAPPI-CTS Interlaboratory Testing Program

Analysis 351

Color & Color Difference - Near White Papers - D65/10deg **Hunter L,a,b - Illuminant D65 - 10 Degree Observer**

Plot of a values GA54 v a values GA53

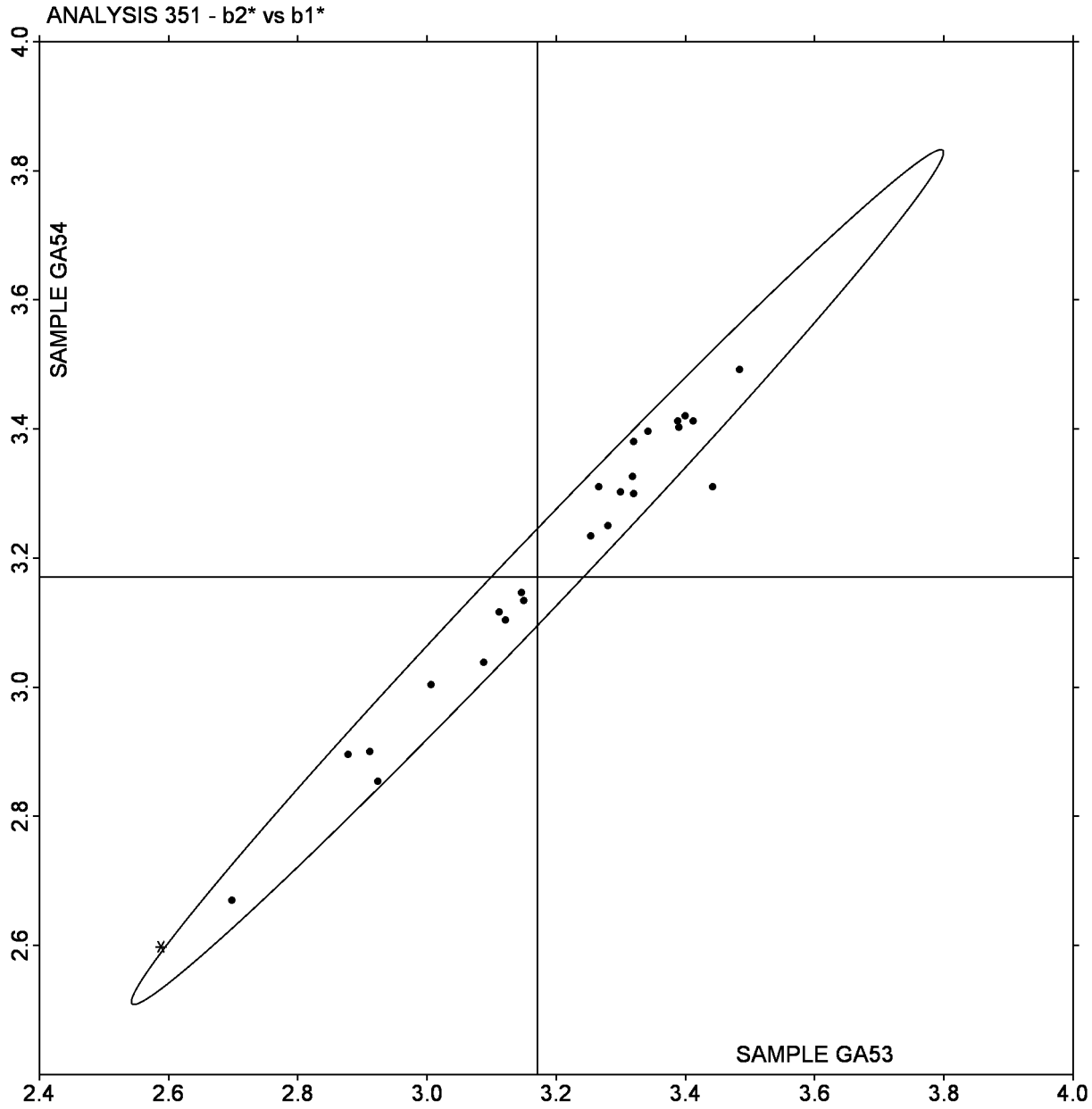


TAPPI-CTS Interlaboratory Testing Program

Analysis 351

Color & Color Difference - Near White Papers - D65/10deg **Hunter L,a,b - Illuminant D65 - 10 Degree Observer**

Plot of b values GA54 v b values GA53



Paper & Paperboard Interlaboratory Testing Program

Analysis 360

Thickness (Caliper), Printing papers

WebCode	Data Flag	Sample GV53 Lab Mean	Sample GV53 Diff from Grand Mean	Sample GV53 CPV	Sample GV54 Lab Mean	Sample GV54 Diff from Grand Mean	Sample GV54 CPV	Instr Code
24CV98		5.284	-0.014	-0.17	4.563	0.008	0.13	TM
2766KF		5.375	0.078	0.95	4.629	0.074	1.20	LW
27DYP9		5.357	0.060	0.73	4.628	0.073	1.18	PP
2NZ324		5.226	-0.071	-0.87	4.483	-0.072	-1.15	TM
384XNL		5.325	0.028	0.34	4.606	0.051	0.83	EM
4LR3YF		5.419	0.122	1.49	4.638	0.083	1.34	TA
62MDBX		5.260	-0.037	-0.45	4.550	-0.005	-0.07	TM
63RXUD		5.125	-0.173	-2.11	4.480	-0.074	-1.20	LW
6UQWXR		5.256	-0.041	-0.50	4.551	-0.003	-0.06	LW
7QUZEX		5.189	-0.108	-1.32	4.536	-0.019	-0.30	PP
7W3JFB		5.324	0.027	0.33	4.547	-0.008	-0.12	TM
93GPQU		5.167	-0.130	-1.59	4.445	-0.110	-1.77	LA
9BAEPN		5.364	0.067	0.82	4.624	0.069	1.11	LW
9FF32E		5.355	0.058	0.71	4.570	0.015	0.25	PP
9RDFJ6		5.344	0.047	0.57	4.615	0.060	0.97	EM
A62FPH		5.410	0.113	1.38	4.680	0.125	2.02	EM
A9WM2U		5.308	0.011	0.13	4.551	-0.004	-0.06	EM
AGDHD2		5.329	0.032	0.39	4.566	0.011	0.18	TM
AY6P29		5.256	-0.041	-0.50	4.492	-0.062	-1.01	PP
BVEGYD		5.347	0.050	0.61	4.587	0.032	0.52	EM
DBBAEQ		5.270	-0.027	-0.33	4.511	-0.043	-0.70	TM
DKH4AJ	X	5.179	-0.118	-1.45	4.592	0.037	0.60	VM
DMYHC6		5.356	0.059	0.72	4.611	0.056	0.91	EM
DNDCHE		5.289	-0.008	-0.10	4.478	-0.077	-1.24	XX
DPPN8N		5.220	-0.077	-0.94	4.470	-0.085	-1.36	TM
ECXTGU		5.114	-0.183	-2.24	4.404	-0.151	-2.43	XX
EWA3NR		5.344	0.047	0.57	4.599	0.044	0.72	EM
FRQVFD		5.268	-0.029	-0.36	4.520	-0.035	-0.56	TA
FWJZ8W		5.414	0.117	1.43	4.620	0.065	1.05	XX
G7LK84		5.295	-0.002	-0.02	4.528	-0.027	-0.44	XX
GCJWNL		5.234	-0.063	-0.77	4.486	-0.069	-1.11	TM
H2NK28	X	5.197	-0.100	-1.23	4.646	0.091	1.47	MT
HECK38		5.319	0.022	0.27	4.551	-0.003	-0.06	FR
HJPVZP		5.422	0.125	1.53	4.638	0.083	1.34	LW
J44TQB		5.140	-0.157	-1.92	4.482	-0.073	-1.17	LW
JDUEWA		5.355	0.058	0.71	4.585	0.030	0.49	LA
JUB87Z		5.318	0.021	0.26	4.579	0.024	0.39	TM
KCQEUM		5.230	-0.067	-0.82	4.530	-0.025	-0.40	LW
KGRZZ6		5.169	-0.128	-1.56	4.449	-0.106	-1.71	LW
KKQTW2		5.350	0.053	0.65	4.559	0.004	0.07	TA
KVB6JZ		5.271	-0.026	-0.32	4.580	0.025	0.41	EM
KVKHQB		5.379	0.082	1.00	4.648	0.093	1.51	LW
LDBQTT		5.160	-0.137	-1.68	4.520	-0.035	-0.56	TM

Paper & Paperboard Interlaboratory Testing Program

Analysis 360

Thickness (Caliper), Printing papers

WebCode	Data Flag	Sample GV53 Lab Mean	Sample GV53 Diff from Grand Mean	Sample GV53 CPV	Sample GV54 Lab Mean	Sample GV54 Diff from Grand Mean	Sample GV54 CPV	Instr Code
LQZZXR	X	5.359	0.062	0.76	4.716	0.161	2.60	TM
LUCTBX		5.350	0.053	0.65	4.600	0.045	0.73	LW
LYMGTL		5.341	0.044	0.54	4.592	0.038	0.61	LW
M79FC8		5.407	0.110	1.35	4.579	0.024	0.39	TM
NA9JKQ		5.359	0.062	0.76	4.560	0.005	0.09	EM
NV4RVU	*	5.159	-0.138	-1.69	4.543	-0.011	-0.18	TM
P3V7Z8		5.180	-0.117	-1.43	4.420	-0.135	-2.17	TM
P4URQX		5.335	0.038	0.46	4.601	0.047	0.76	LW
P8K8XR		5.317	0.020	0.24	4.538	-0.017	-0.27	TA
Q3AUV8		5.377	0.080	0.98	4.608	0.053	0.86	EM
QH9KPN		5.228	-0.069	-0.84	4.484	-0.071	-1.14	TM
QVKYG9		5.280	-0.018	-0.22	4.528	-0.027	-0.44	TA
RB4VRG		5.248	-0.049	-0.60	4.560	0.005	0.09	EM
RLH7Q8		5.220	-0.077	-0.94	4.480	-0.074	-1.20	TM
TJFACX		5.276	-0.021	-0.26	4.510	-0.045	-0.72	TM
TL248D		5.197	-0.100	-1.23	4.496	-0.059	-0.94	TM
TL8RPX		5.370	0.073	0.89	4.610	0.056	0.90	LW
UHFE2C		5.220	-0.077	-0.94	4.520	-0.035	-0.56	TM
UVDWAR		5.330	0.033	0.40	4.575	0.020	0.33	EM
V67HEH		5.349	0.052	0.64	4.640	0.085	1.38	EM
VLTTAX		5.377	0.080	0.98	4.622	0.067	1.09	LW
VUZMWK		5.280	-0.017	-0.21	4.555	0.001	0.01	LW
W7GUFK		5.320	0.023	0.28	4.515	-0.040	-0.64	TA
W98GCY		5.394	0.097	1.18	4.551	-0.003	-0.06	LW
WW98NJ		5.252	-0.045	-0.55	4.528	-0.027	-0.44	LW
XDPC8C	*	5.521	0.224	2.74	4.692	0.137	2.22	XX
XGNQU2		5.300	0.003	0.04	4.586	0.031	0.50	LW
YCJ42N		5.278	-0.019	-0.23	4.549	-0.006	-0.09	TM
YEL3CG		5.422	0.125	1.53	4.673	0.118	1.91	VM
YM7AMF		5.307	0.010	0.12	4.606	0.052	0.83	LW
YXFKHC		5.327	0.030	0.36	4.535	-0.019	-0.31	TM
Z2XRAQ		5.190	-0.107	-1.31	4.472	-0.083	-1.33	EM
ZPHTBN		5.240	-0.057	-0.70	4.470	-0.085	-1.36	TM

Summary Statistics

	Sample GV53	Sample GV54
Grand Means	5.2971 mils	4.5546 mils
SD Btwn Labs	0.0817 mils	0.0620 mils

Statistics based on 73 of 76 reporting participants

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

DKH4AJ (X) - Inconsistent in testing between samples and within the determinations for Sample GV54.

H2NK28 (X) - Inconsistent in testing between samples and within the determinations for Sample GV54.

LQZZXR (X) - Inconsistent in testing between samples.

Analysis Notes:

DBBAEQ - Data appear to be reported as mils, not inches as indicated on datasheet. Unit changed by CTS.

P4URQX - One determination removed from the Lab Mean of Sample GV54 per Grubb's Test at 1% risk (TAPPI 1205).

QH9KPN - Data appear to be off by a factor of 10; data converted by CTS (/10).

Instrument Code List as Reported by the Labs

(EM) - Emveco
(FR) - Frank Instruments
(LA) - L & W Autoline
(LW) - L & W
(MT) - Mitutoyo
(PP) - Technidyne Profile/Plus
(TA) - Thwing-Albert
(TM) - TMI
(VM) - Valmet PaperLab (was Kajaani/Robotest)
(XX) - Instrument make/model not specified by lab

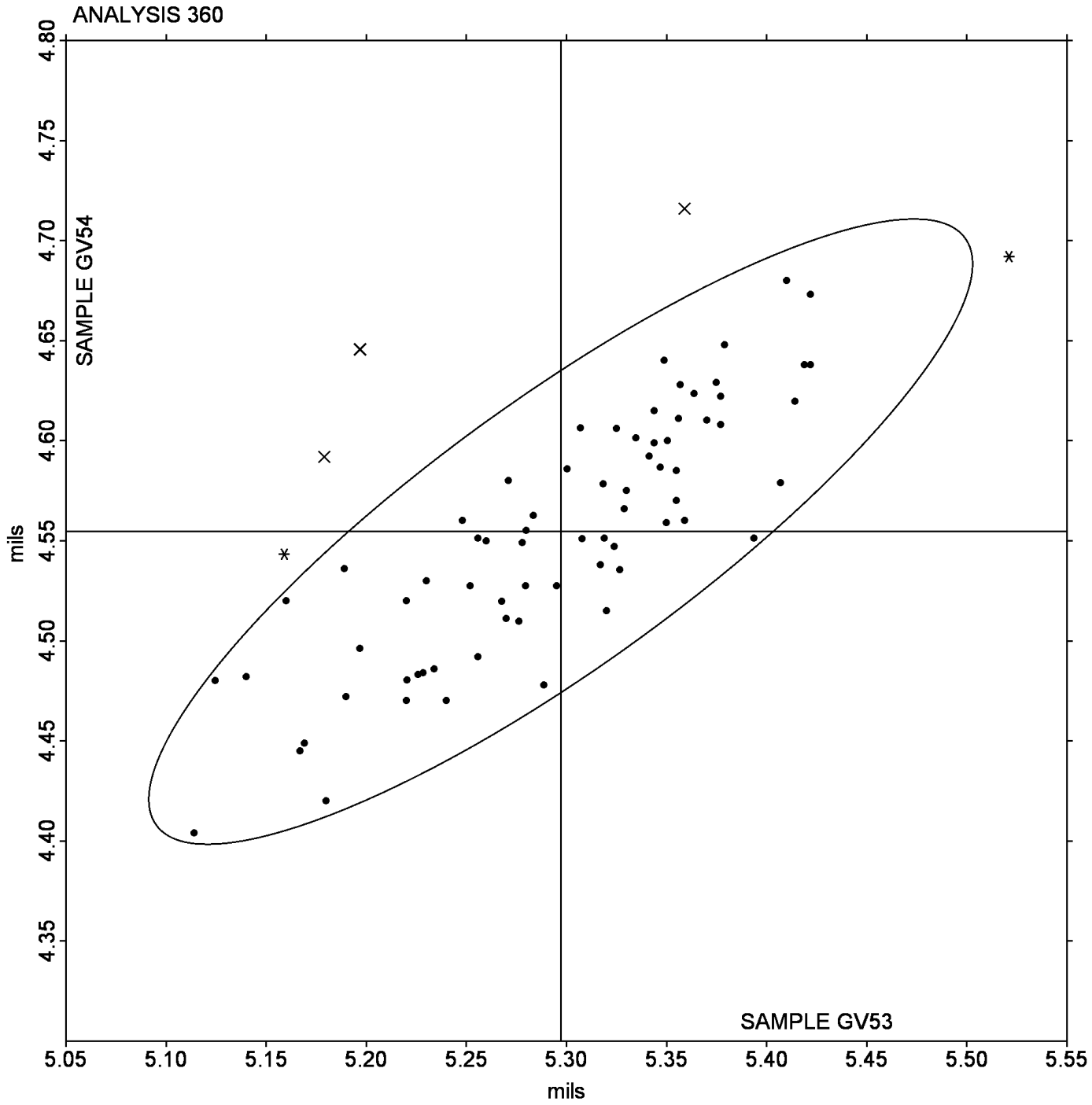
Paper & Paperboard Interlaboratory Testing Program

Analysis 360

Thickness (Caliper), Printing papers

Grand Mean Sample **GV53** = 5.2971 mils

Grand Mean Sample **GV54** = 4.5546 mils



Paper & Paperboard Interlaboratory Testing Program

Analysis 361

Thickness (Caliper), Packaging papers

WebCode	Data Flag	Sample GY53 Lab Mean	Sample GY53 Diff from Grand Mean	Sample GY53 CPV	Sample GY54 Lab Mean	Sample GY54 Diff from Grand Mean	Sample GY54 CPV	Instr Code
6CNA8Z		9.394	0.088	0.74	7.638	0.086	0.84	XX
8TU6AC		9.210	-0.095	-0.80	7.450	-0.102	-0.99	TM
9PP3HD		9.470	0.164	1.37	7.665	0.113	1.10	LW
9ZQEZ2		9.290	-0.015	-0.13	7.590	0.038	0.37	TM
AKT3Y6		9.457	0.151	1.26	7.701	0.149	1.45	TM
BAC389		9.390	0.085	0.71	7.590	0.038	0.37	EM
EXDTM3		9.371	0.066	0.55	7.568	0.016	0.16	TA
FCCUJM		9.220	-0.085	-0.71	7.550	-0.002	-0.02	TA
G3NWTH		9.133	-0.172	-1.44	7.381	-0.171	-1.66	TM
GDLHUR		9.264	-0.041	-0.35	7.565	0.013	0.13	EM
GWQG4L	X	9.260	-0.046	-0.38	7.823	0.271	2.64	XX
HR9KTG		9.261	-0.044	-0.37	7.463	-0.089	-0.86	EM
JLCWJH		9.230	-0.075	-0.63	7.430	-0.122	-1.18	TM
JWBF9P		9.315	0.010	0.08	7.654	0.102	1.00	EM
L4QT9Z		9.462	0.157	1.31	7.629	0.077	0.75	EM
L843AY		9.248	-0.057	-0.48	7.499	-0.053	-0.51	EM
LY2QHM		9.231	-0.074	-0.62	7.462	-0.090	-0.87	TM
M4MAWM		9.412	0.107	0.89	7.646	0.094	0.92	TM
MPTQCJ		9.208	-0.097	-0.81	7.442	-0.110	-1.07	EM
NJ9RTQ		9.190	-0.115	-0.96	7.460	-0.092	-0.89	LW
P7TU92		9.350	0.045	0.37	7.609	0.057	0.56	TA
Q4NWKX		9.290	-0.015	-0.13	7.530	-0.022	-0.21	TM
VQTEG9		9.465	0.159	1.33	7.634	0.082	0.80	LW
WT7RW3		9.120	-0.185	-1.55	7.370	-0.182	-1.77	XX
XRRKBL	X	8.942	-0.364	-3.04	7.153	-0.398	-3.87	TM
XT6QR2		9.338	0.033	0.27	7.556	0.004	0.04	EM
Y24Z6Q		9.453	0.147	1.23	7.736	0.185	1.80	LW
Z27Z4J	*	9.030	-0.275	-2.30	7.410	-0.142	-1.38	TM
ZHVP3F		9.446	0.141	1.17	7.665	0.113	1.10	TM

Summary Statistics

	Sample GY53	Sample GY54
Grand Means	9.3054 mils	7.5516 mils
SD Btwn Labs	0.1197 mils	0.1028 mils

Statistics based on 27 of 29 reporting participants

GWQG4L (X) - Inconsistent in testing between samples, data for Sample GY54 are high.

XRRKBL (X) - Systematic error (data for both samples are low).

Analysis Notes:

AKT3Y6 - Data appear to be off by a factor of 1/1000; data converted by CTS (x1000).

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

Instrument Code List as Reported by the Labs

(EM) - Emveco

(LW) - L & W

(TA) - Thwing-Albert

(TM) - TMI

(XX) - Instrument make/model not specified by lab

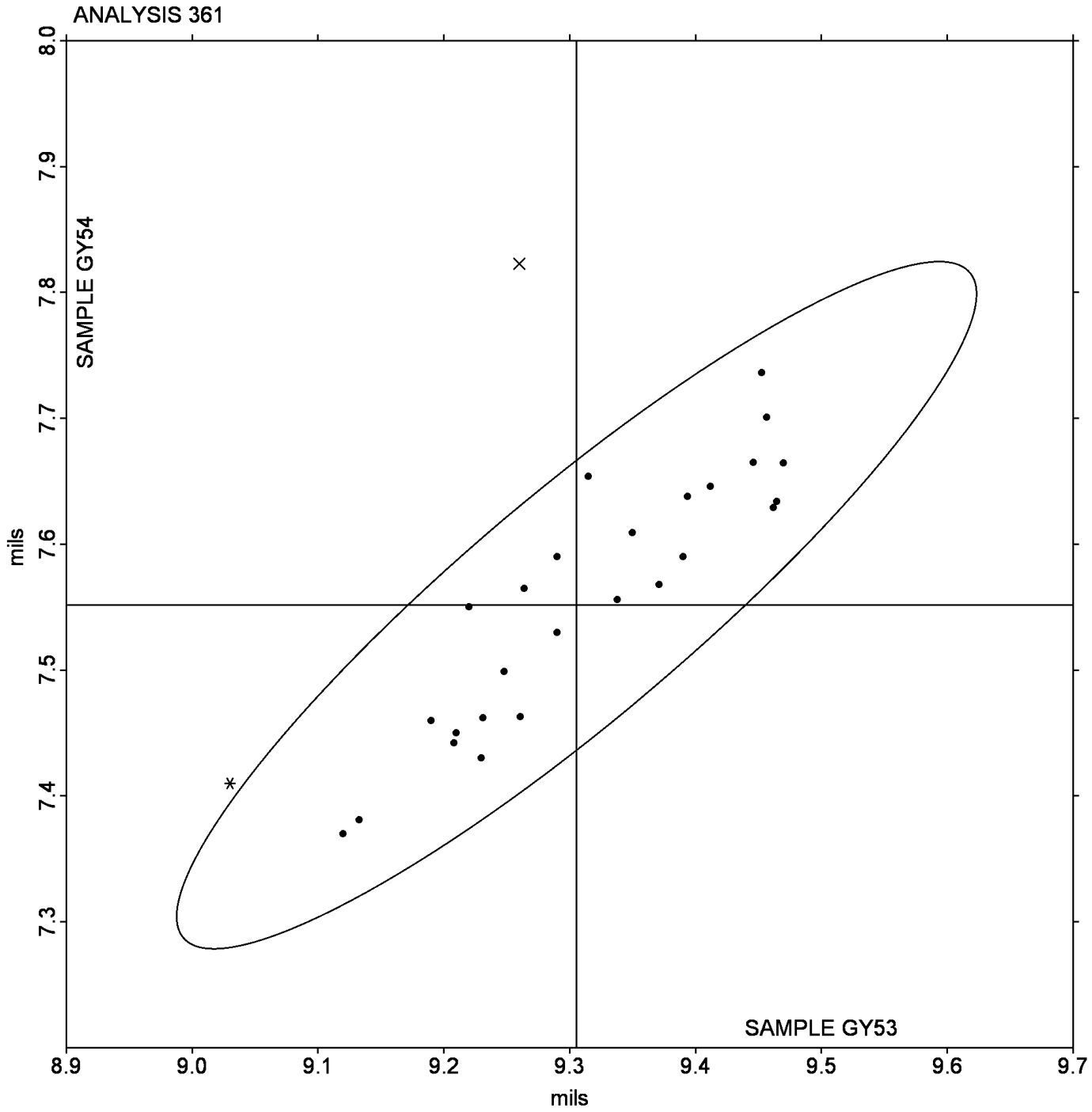
Paper & Paperboard Interlaboratory Testing Program

Analysis 361

Thickness (Caliper), Packaging papers

Grand Mean Sample **GY53** = 9.3054 mils

Grand Mean Sample **GY54** = 7.5516 mils



Paper & Paperboard Interlaboratory Testing Program

Analysis 364

Coefficient of Static Friction - Horizontal Plane Method - Printing Papers

WebCode	Data Flag	Sample GD53 Lab Mean	Sample GD53 Diff from Grand Mean	Sample GD53 CPV	Sample GD54 Lab Mean	Sample GD54 Diff from Grand Mean	Sample GD54 CPV	Instr Code
42F48L		0.5692	0.0323	0.47	0.5704	0.0463	0.80	TM
6EXWXY		0.5750	0.0381	0.56	0.5348	0.0107	0.18	TM
72Q7XC	X	0.3192	-0.2177	-3.19	0.3482	-0.1759	-3.03	CH
7VQ7W4		0.5220	-0.0149	-0.22	0.5202	-0.0039	-0.07	TM
9QEGNP		0.5820	0.0451	0.66	0.5542	0.0301	0.52	TM
CNNABJ		0.4536	-0.0833	-1.22	0.5322	0.0081	0.14	TM
EZBXJN		0.4654	-0.0715	-1.05	0.4240	-0.1001	-1.72	XX
GTWPQ4		0.5460	0.0091	0.13	0.5400	0.0159	0.27	IX
LTUDPV		0.5140	-0.0229	-0.33	0.5454	0.0213	0.37	IT
NTR37X		0.6312	0.0943	1.38	0.5316	0.0075	0.13	TM
PLZDRD		0.6320	0.0951	1.39	0.6180	0.0939	1.62	TL
U8ERWA		0.4108	-0.1261	-1.85	0.4054	-0.1187	-2.04	TN
VACJDL		0.5412	0.0043	0.06	0.5126	-0.0115	-0.20	NS
VTCM44	X	0.2134	-0.3234	-4.74	0.1977	-0.3264	-5.62	XX

Summary Statistics

	Sample GD53	Sample GD54
Grand Means	0.53687 COF	0.52407 COF
SD Btwn Labs	0.06827 COF	0.05805 COF

Statistics based on 12 of 14 reporting participants

Comments on assigned Data Flags for Test #364

72Q7XC (X) - Systematic error (data for both samples are low).

VTCM44 (X) - Extreme data.

Instrument Code List as Reported by the Labs

(CH) - Cheminstruments AR-1000

(IT) - IMASS SP-2100

(IX) - Instron (model not specified)

(NS) - Nomura Shoji NSF-100

(TL) - TMI 32-90 Lab Master/Slip and Friction

(TM) - TMI 32-06 Monitor/Slip and Friction

(TN) - TMI 32-07 Monitor/Slip and Friction

(XX) - Instrument make/model not specified by lab

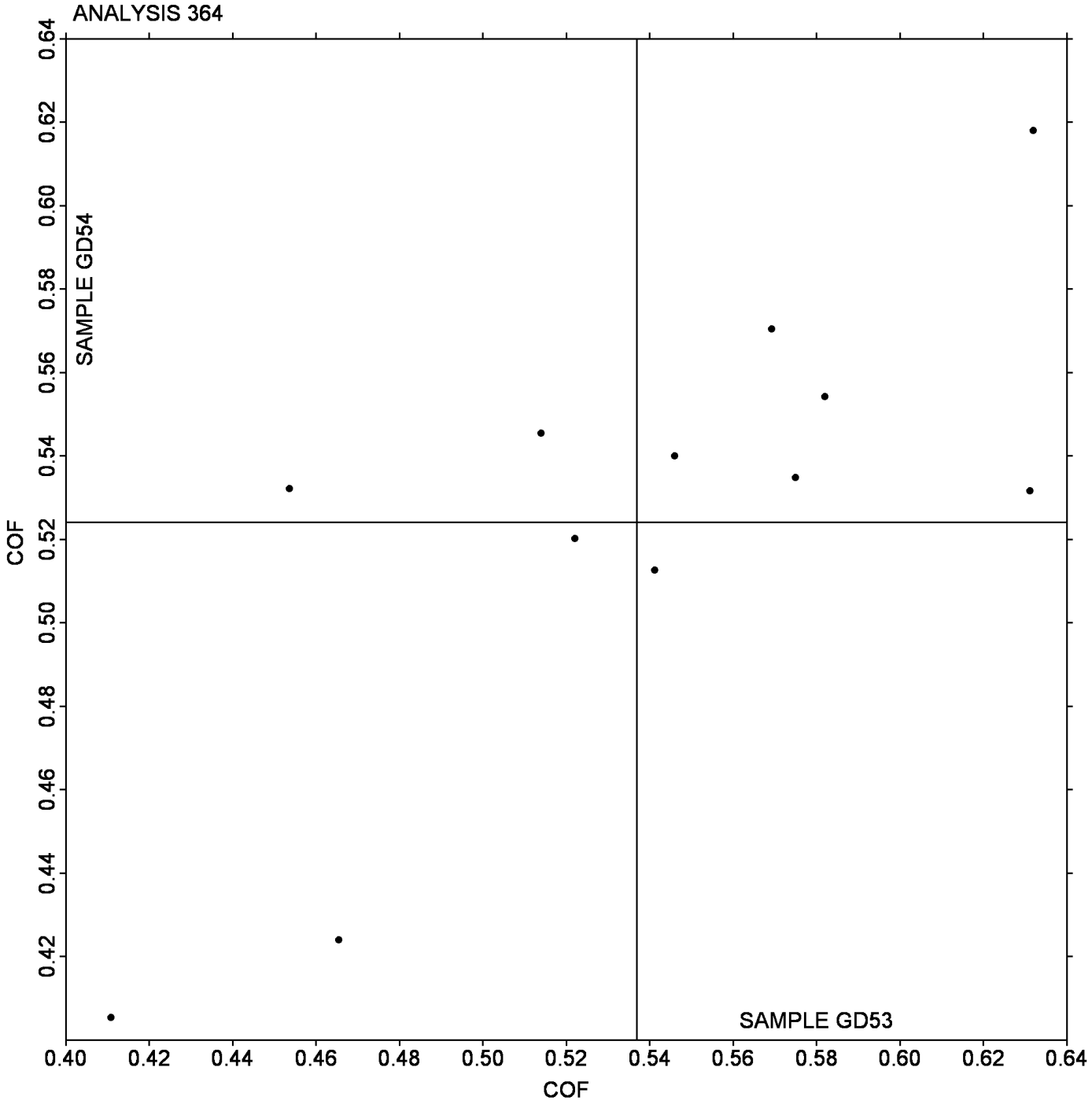
Paper & Paperboard Interlaboratory Testing Program

Analysis 364

Coefficient of Static Friction - Horizontal Plane Method - Printing Papers

Grand Mean Sample **GD53** = 0.53687 COF

Grand Mean Sample **GD54** = 0.52407 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 GD53 Lab Mean	Sample GD53 Diff from Grand Mean	Sample GD53 CPV	Sample GD54 Lab Mean	Sample GD54 Diff from Grand Mean	Sample GD54 CPV	Instr Code
2K6BT8		0.4546	-0.0269	-0.43	0.4428	-0.0099	-0.14	TM
7EDKQD		0.5000	0.0185	0.30	0.4920	0.0393	0.54	IX
BE3L2Q		0.4472	-0.0343	-0.55	0.3000	-0.1527	-2.11	XX
C4RNDL		0.4700	-0.0115	-0.19	0.4520	-0.0007	-0.01	TM
EE8XVJ	X	0.1200	-0.3615	-5.85	0.1110	-0.3417	-4.73	XX
HNPRZG		0.4944	0.0129	0.21	0.4746	0.0219	0.30	TM
HW9GAW		0.5090	0.0275	0.45	0.4506	-0.0021	-0.03	XX
MDDN2T		0.5552	0.0737	1.19	0.5266	0.0739	1.02	TA
NCJB4T		0.3920	-0.0895	-1.45	0.3800	-0.0727	-1.01	IR
W7Z4N7		0.6080	0.1265	2.05	0.5780	0.1253	1.73	TL
WVQQ3K		0.4148	-0.0667	-1.08	0.4486	-0.0041	-0.06	NS
ZRWLXH		0.4508	-0.0307	-0.50	0.4346	-0.0181	-0.25	TA

Summary Statistics

	Sample GD53	Sample GD54
Grand Means	0.48145 COF	0.45271 COF
SD Btwn Labs	0.06175 COF	0.07227 COF

Statistics based on 11 of 12 reporting participants

Comments on assigned Data Flags for Test #365

EE8XVJ (X) - Extreme data.

Instrument Code List as Reported by the Labs

(IR) - IMASS SP-2000

(IX) - Instron (model not specified)

(NS) - Nomura Shoji NSF-100

(TA) - Thwing-Albert Friction Tester

(TL) - TMI 32-90 Lab Master/Slip and Friction

(TM) - TMI 32-06 Monitor/Slip and Friction

(XX) - Instrument make/model not specified by lab

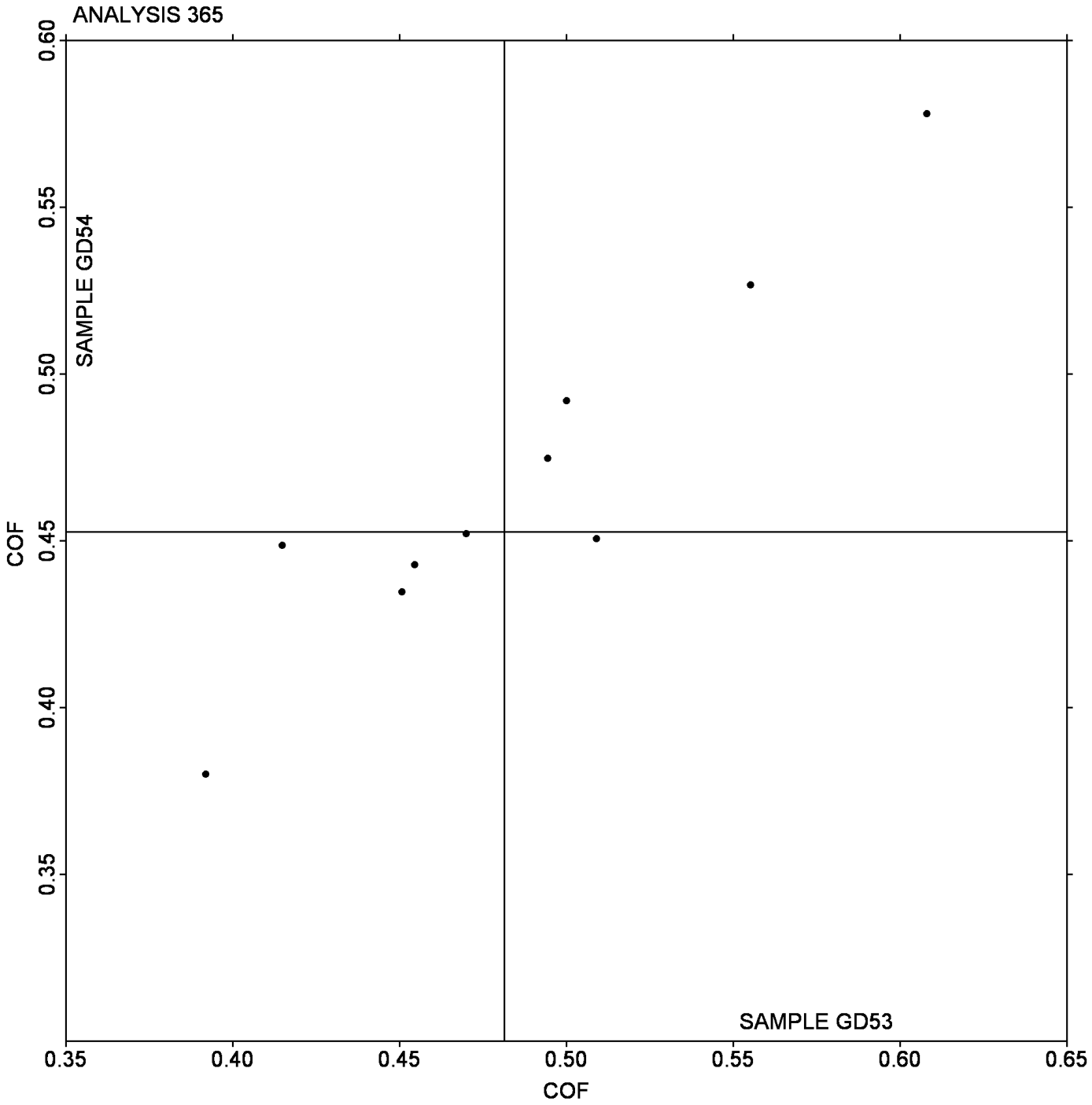
Paper & Paperboard Interlaboratory Testing Program

Analysis 365

Coefficient of Kinetic Friction - Horizontal Plane Method - Printing Papers

Grand Mean Sample **GD53** = 0.48145 COF

Grand Mean Sample **GD54** = 0.45271 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 GE53 Lab Mean	Sample GE53 Diff from Grand Mean	Sample GE53 CPV	Sample GE54 Lab Mean	Sample GE54 Diff from Grand Mean	Sample GE54 CPV	Instr Code
2G64AV		45.99	2.38	0.63	28.92	-1.80	-1.09	VM
2L8W2Y		40.80	-2.80	-0.74	29.00	-1.72	-1.04	WG
3AP3ZJ		45.48	1.88	0.50	30.51	-0.21	-0.13	PP
4XN9UY		40.50	-3.10	-0.82	30.30	-0.42	-0.25	LW
4YECJZ		44.80	1.20	0.32	29.30	-1.42	-0.86	XX
6JMRNX	X	103.60	60.00	15.87	78.93	48.21	29.09	TL
6KNJZC		43.38	-0.22	-0.06	30.55	-0.17	-0.10	LP
6KUT86		44.42	0.82	0.22	32.90	2.18	1.32	TL
6V2CET	*	53.66	10.06	2.66	32.84	2.12	1.28	XX
6XM3FX		38.18	-5.42	-1.43	28.31	-2.41	-1.45	TN
78QGYB		42.81	-0.79	-0.21	29.29	-1.43	-0.86	PP
7GD7AW		38.65	-4.95	-1.31	30.17	-0.55	-0.33	XX
7VYMAF		41.20	-2.40	-0.64	31.29	0.57	0.35	HG
8KMN3X	*	51.34	7.74	2.05	35.78	5.06	3.06	GA
97CJNV		38.93	-4.67	-1.24	30.10	-0.62	-0.37	LP
9D4Q2G		45.30	1.70	0.45	31.70	0.98	0.59	TL
9FGQPJ		46.74	3.14	0.83	31.00	0.28	0.17	XX
CK3EKK		41.97	-1.63	-0.43	30.89	0.17	0.10	LP
EUQEJZ		43.42	-0.18	-0.05	30.12	-0.60	-0.36	XX
G3NHGN		40.75	-2.85	-0.75	30.19	-0.53	-0.32	LW
HA3R23		46.10	2.50	0.66	31.10	0.38	0.23	WG
HEGFMK		47.99	4.39	1.16	32.63	1.91	1.15	LA
HR3EBV		47.32	3.72	0.98	33.44	2.72	1.64	TN
HTKZMH		44.85	1.25	0.33	33.70	2.98	1.80	PP
M3XMVL		40.91	-2.69	-0.71	30.49	-0.23	-0.14	XX
ML2RPW		42.05	-1.55	-0.41	28.68	-2.04	-1.23	LP
MZVFGM		48.11	4.51	1.19	30.48	-0.24	-0.14	XX
N4ZMVD		46.05	2.45	0.65	30.78	0.06	0.04	GS
PBZXNU		42.66	-0.94	-0.25	31.03	0.31	0.19	LP
PTH7YQ		40.27	-3.33	-0.88	29.86	-0.86	-0.52	LP
RNLE3R		46.20	2.60	0.69	29.21	-1.51	-0.91	LW
RZAVJ6		43.20	-0.40	-0.11	30.30	-0.42	-0.25	LW
TKJE4Y		39.55	-4.05	-1.07	29.81	-0.91	-0.55	LA
U2R626		38.79	-4.81	-1.27	28.37	-2.35	-1.42	LP
UDYMKC		40.55	-3.05	-0.81	29.47	-1.25	-0.75	LP
UQQZ8N	*	33.64	-9.96	-2.63	27.87	-2.84	-1.72	RE
UQY9MA		43.28	-0.32	-0.09	33.48	2.76	1.67	LW
VYLYEU		47.11	3.51	0.93	29.20	-1.52	-0.92	LW
WGMZUD		40.92	-2.68	-0.71	30.65	-0.07	-0.04	HG
WNHXLM		41.62	-1.98	-0.52	29.81	-0.91	-0.55	HG
WXGDWE		45.81	2.21	0.58	32.60	1.88	1.14	HG
XJYRET		44.78	1.18	0.31	31.56	0.84	0.51	HG
YPP244		48.34	4.74	1.25	30.79	0.07	0.04	HG

Paper & Paperboard Interlaboratory Testing Program

Analysis 370

Air Resistance - Gurley Oil Type

WebCode	Data Flag	Sample GE53 Lab Mean	Sample GE53 Diff from Grand Mean	Sample GE53 CPV	Sample GE54 Lab Mean	Sample GE54 Diff from Grand Mean	Sample GE54 CPV	Instr Code
ZHXEL3		46.53	2.92	0.77	32.39	1.67	1.01	PP

Summary Statistics

	Sample GE53	Sample GE54
Grand Means	43.604 sec/100 cc	30.717 sec/100 cc
SD Btwn Labs	3.780 sec/100 cc	1.657 sec/100 cc

Statistics based on 43 of 44 reporting participants

Comments on assigned Data Flags for Test #370

6JMRNX (X) - Extreme data.

Instrument Code List as Reported by the Labs

(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) - Teledyne Gurley Densometer #4110, Oil Flotation
(TN) - Teledyne Gurley S-P-S Tester #4190
(VM) - Valmet PaperLab (was Kajaani/Robotest)
(WG) - W & LE Gurley Tester
(XX) - Instrument make/model not specified by lab

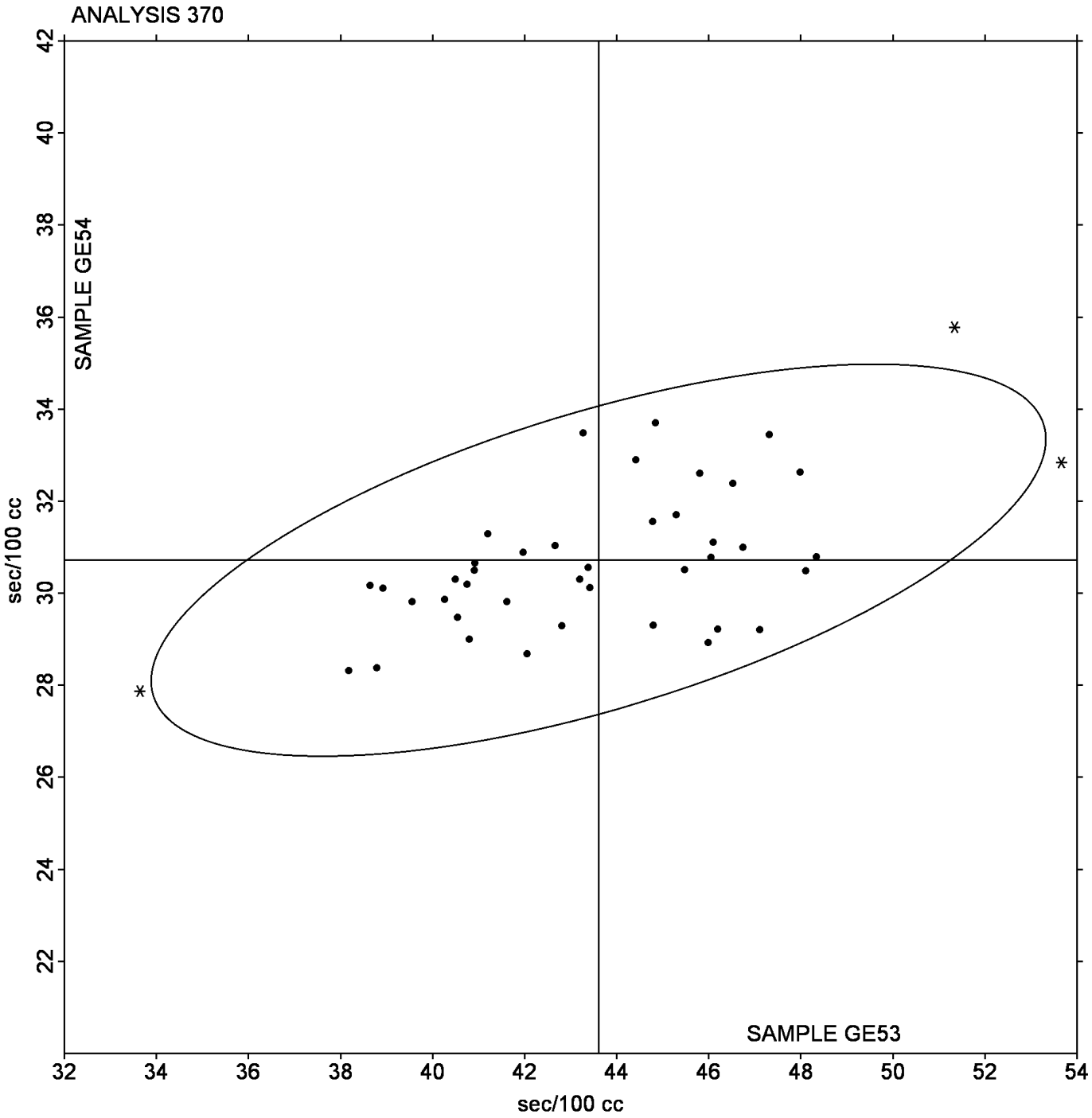
Paper & Paperboard Interlaboratory Testing Program

Analysis 370

Air Resistance - Gurley Oil Type

Grand Mean Sample **GE53** = 43.604 sec/100 cc

Grand Mean Sample **GE54** = 30.717 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 GE53 Lab Mean	Sample GE53 Diff from Grand Mean	Sample GE53 CPV	Sample GE54 Lab Mean	Sample GE54 Diff from Grand Mean	Sample GE54 CPV	Instr Code
2QDPL4		76.26	1.77	0.26	91.59	-3.90	-0.54	PP
3F7XME		72.30	-2.18	-0.32	95.90	0.41	0.06	SH
66GYVZ		61.90	-12.58	-1.82	79.20	-16.29	-2.24	TT
9JK8WT		84.90	10.42	1.51	104.30	8.81	1.21	SH
9ND4N6		78.82	4.33	0.63	98.29	2.80	0.39	SH
9NLGD8		80.70	6.22	0.90	101.40	5.91	0.81	SH
CDHN8K	X	44.67	-29.81	-4.32	30.36	-65.13	-8.96	HG
CVPXC3		85.20	10.72	1.55	106.40	10.91	1.50	VM
DT2RHX		65.23	-9.25	-1.34	93.06	-2.43	-0.33	GA
E8DN4K		72.83	-1.65	-0.24	90.51	-4.98	-0.69	SH
EKA6AL		78.20	3.72	0.54	108.30	12.81	1.76	VM
FKAW4T		63.50	-10.98	-1.59	86.30	-9.19	-1.26	TS
GAC79D		71.70	-2.78	-0.40	90.00	-5.49	-0.76	HM
H6RMFU		83.70	9.22	1.34	100.60	5.11	0.70	TT
HVJ7H4	X	116.30	41.82	6.06	155.90	60.41	8.31	TT
L4R64N		76.53	2.05	0.30	101.19	5.70	0.78	HG
MD2TUT		72.79	-1.69	-0.25	97.62	2.13	0.29	XX
ND2AMB		71.80	-2.68	-0.39	92.50	-2.99	-0.41	HM
PJMM24		84.00	9.52	1.38	102.50	7.01	0.96	TT
RADBZW		72.79	-1.69	-0.25	95.81	0.32	0.04	HM
U44MN8		68.86	-5.62	-0.81	90.21	-5.28	-0.73	LP
UEF47C		74.70	0.22	0.03	92.30	-3.19	-0.44	LP
ZWKEKH		67.40	-7.08	-1.03	87.30	-8.19	-1.13	HM

Summary Statistics

	Sample GE53	Sample GE54
Grand Means	74.481 Sheffield Units	95.489 Sheffield Units
SD Btwn Labs	6.899 Sheffield Units	7.267 Sheffield Units

Statistics based on 21 of 23 reporting participants

Comments on assigned Data Flags for Test #372

CDHN8K (X) - Extreme data.

HVJ7H4 (X) - Extreme data.

Instrument Code List as Reported by the Labs

(GA) - Gurley Precision #4340 Automatic Densometer

(HG) - Technidyne - Hagerty Model #1

(HM) - Technidyne - Hagerty Model #538

(LP) - L & W Densometer, Air Permeance

(PP) - Technidyne Profile/Plus

(SH) - Sheffield

(TS) - TMI Monitor/Smoothness, Model 58-02

(TT) - TMI Monitor/Smoothness II, Model 58-24

(VM) - Valmet PaperLab (was Kajaani/Robotest)

(XX) - Instrument make/model not specified by lab

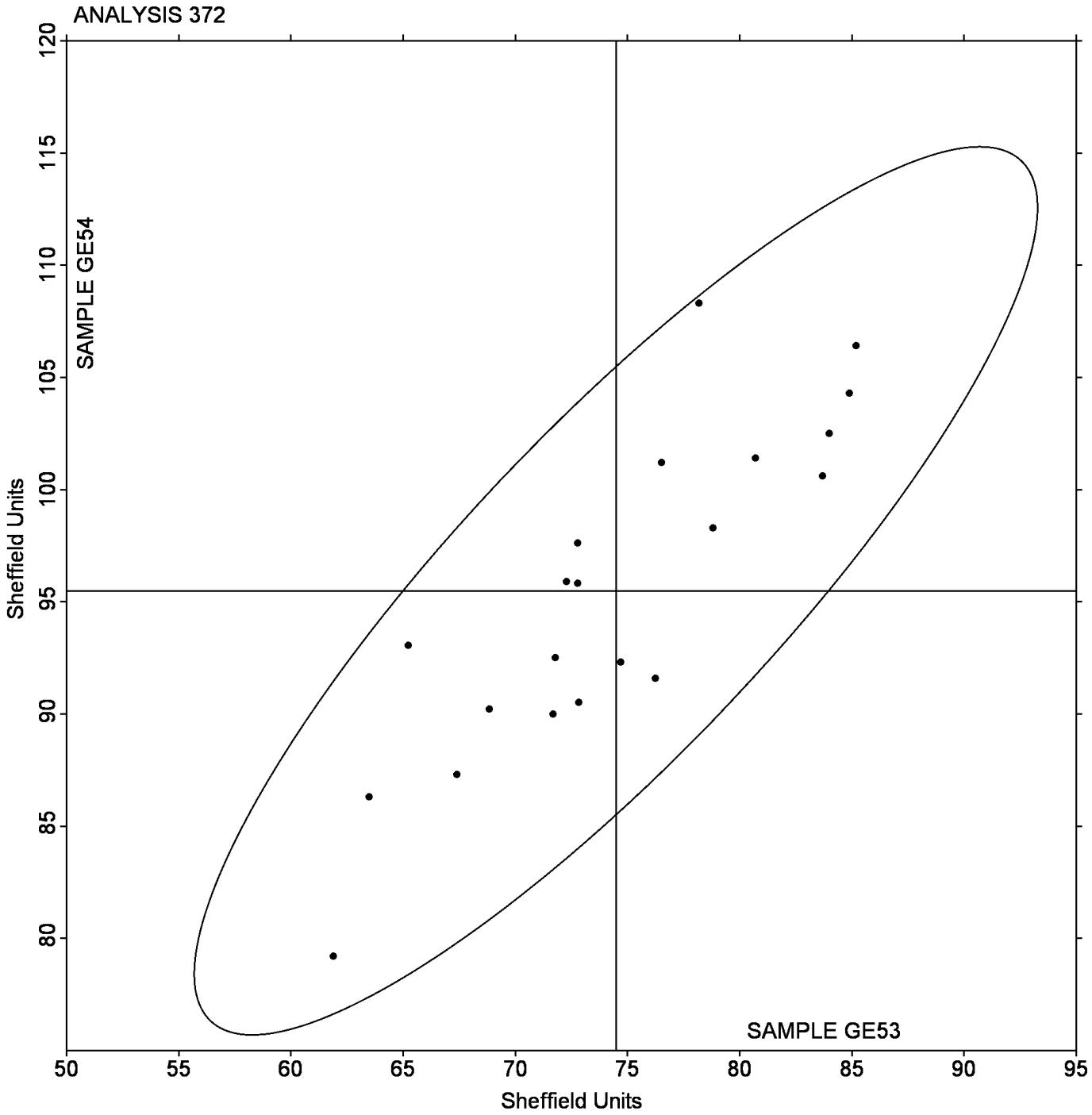
Paper & Paperboard Interlaboratory Testing Program

Analysis 372

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

Grand Mean Sample **GE53** = 74.481 Sheffield Units

Grand Mean Sample **GE54** = 95.489 Sheffield Units



Paper & Paperboard Interlaboratory Testing Program

Analysis 376

Roughness - Print Surf Method - 0.5 to 4.0 Microns

WebCode	Data Flag	Sample GJ53 Lab Mean	Sample GJ53 Diff from Grand Mean	Sample GJ53 CPV	Sample GJ54 Lab Mean	Sample GJ54 Diff from Grand Mean	Sample GJ54 CPV
2ANZM8		1.403	0.042	0.48	1.457	0.027	0.30
2U9PDK		1.317	-0.044	-0.49	1.368	-0.062	-0.70
3VVJTL		1.285	-0.076	-0.85	1.388	-0.042	-0.48
3ZW7KA		1.387	0.026	0.29	1.434	0.004	0.04
427JWA	X	1.961	0.600	6.75	3.591	2.161	24.27
9K9L4P		1.381	0.020	0.23	1.446	0.016	0.17
9ZPXXQ		1.333	-0.028	-0.31	1.402	-0.028	-0.32
AV8AJC		1.355	-0.006	-0.06	1.433	0.003	0.03
BFT7VW		1.529	0.168	1.89	1.590	0.160	1.79
FMVM7H		1.276	-0.085	-0.95	1.331	-0.099	-1.12
FT36DX		1.548	0.187	2.11	1.593	0.163	1.83
G7RDZQ	*	1.328	-0.033	-0.37	1.315	-0.115	-1.30
HJBVAR		1.361	0.000	0.00	1.417	-0.013	-0.15
HZ3N36		1.320	-0.041	-0.46	1.410	-0.020	-0.23
JLZFYV		1.264	-0.097	-1.09	1.347	-0.083	-0.94
KEM4XP		1.364	0.003	0.04	1.476	0.046	0.51
KHN8RW		1.468	0.107	1.21	1.527	0.097	1.08
KQ2TKD		1.346	-0.015	-0.16	1.433	0.003	0.03
LA6CXM	*	1.123	-0.238	-2.67	1.216	-0.214	-2.41
MD37GA		1.229	-0.132	-1.48	1.324	-0.106	-1.20
MXYM43	*	1.381	0.020	0.23	1.534	0.104	1.16
NR2FXN		1.354	-0.007	-0.07	1.443	0.013	0.14
Q8JWFU		1.453	0.092	1.04	1.475	0.045	0.50
QBUKKD		1.369	0.008	0.09	1.426	-0.004	-0.05
QNBLUP		1.499	0.138	1.56	1.573	0.143	1.60
TD84HD		1.321	-0.040	-0.45	1.433	0.003	0.03
UJYX94		1.356	-0.005	-0.05	1.405	-0.025	-0.29
VPWMAN		1.297	-0.064	-0.71	1.379	-0.051	-0.58
VYZTVP		1.430	0.069	0.78	1.448	0.018	0.20
W4BCHN		1.294	-0.067	-0.75	1.400	-0.030	-0.34
W6ZM9G		1.530	0.169	1.90	1.627	0.197	2.21
X2DG27		1.297	-0.064	-0.71	1.346	-0.084	-0.95
XGEXKE	X	1.731	0.370	4.16	1.628	0.198	2.22
XTHFN9		1.399	0.038	0.43	1.480	0.050	0.56
ZLHK7E	X	18.700	17.339	194.84	37.700	36.270	407.47
ZT4LGP		1.370	0.009	0.11	1.456	0.026	0.29
ZVLVFP		1.294	-0.067	-0.75	1.304	-0.126	-1.42

Paper & Paperboard Interlaboratory Testing Program

Analysis 376

Roughness - Print Surf Method - 0.5 to 4.0 Microns

Summary Statistics

	Sample GJ53	Sample GJ54
Grand Means	1.3606 Microns	1.4305 Microns
SD Btwn Labs	0.0890 Microns	0.0890 Microns

Statistics based on 34 of 37 reporting participants

Comments on assigned Data Flags for Test #376

427JWA (X) - Extreme data.

XGEXKE (X) - Inconsistent in testing between samples, data for Sample GJ53 are high.

ZLHK7E (X) - Extreme data.

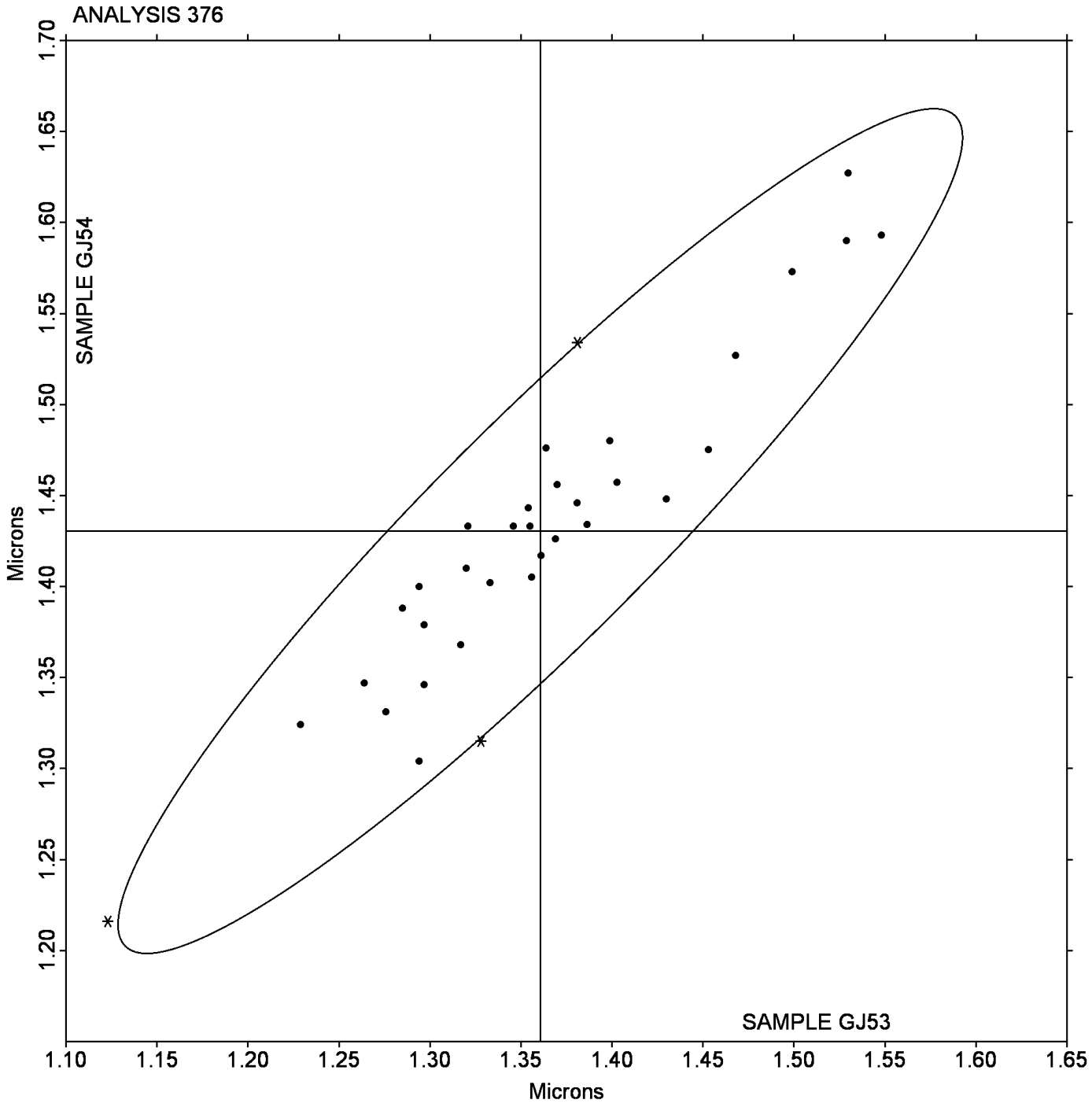
Paper & Paperboard Interlaboratory Testing Program

Analysis 376

Roughness - Print Surf Method - 0.5 to 4.0 Microns

Grand Mean Sample **GJ53** = 1.3606 Microns

Grand Mean Sample **GJ54** = 1.4305 Microns



Paper & Paperboard Interlaboratory Testing Program

Analysis 377

Roughness - Print Surf Method - 2.5 to 6.0 Microns

WebCode	Data Flag	Sample GK53 Lab Mean	Sample GK53 Diff from Grand Mean	Sample GK53 CPV	Sample GK54 Lab Mean	Sample GK54 Diff from Grand Mean	Sample GK54 CPV
4D8BR3		7.234	-1.380	-1.28	5.686	-0.818	-1.64
68F9JW		6.869	-1.745	-1.62	6.058	-0.446	-0.89
82MKWV		8.446	-0.168	-0.16	6.247	-0.257	-0.51
8FF7VH		9.067	0.453	0.42	6.770	0.266	0.53
BLW9XC		8.354	-0.260	-0.24	6.414	-0.090	-0.18
BNUH4X		8.883	0.269	0.25	6.657	0.153	0.31
CGD7YX		8.872	0.258	0.24	6.439	-0.065	-0.13
GNTRKW		7.386	-1.228	-1.14	6.154	-0.350	-0.70
HLEU8E		6.502	-2.112	-1.96	5.502	-1.002	-2.00
K7AKMJ		9.241	0.627	0.58	6.937	0.433	0.87
KA244U		9.082	0.468	0.43	6.442	-0.062	-0.12
L7H79C		9.469	0.855	0.79	6.926	0.422	0.84
RNWZXD		9.101	0.487	0.45	6.581	0.077	0.15
UPC8YL		10.336	1.722	1.60	7.417	0.913	1.83
VWNU3M		9.555	0.941	0.87	6.804	0.300	0.60
WX7YV6		9.427	0.813	0.75	7.037	0.533	1.07

Summary Statistics

	Sample GK53	Sample GK54
Grand Means	8.6140 Microns	6.5044 Microns
SD Btwn Labs	1.0786 Microns	0.5000 Microns

Statistics based on 16 of 16 reporting participants

Notes for Analysis 377

No Data Flags assigned for this analysis.

Analysis Notes:

WX7YV6 - Three suspect replicates identified by the lab were removed from the lab mean of Sample GK53.

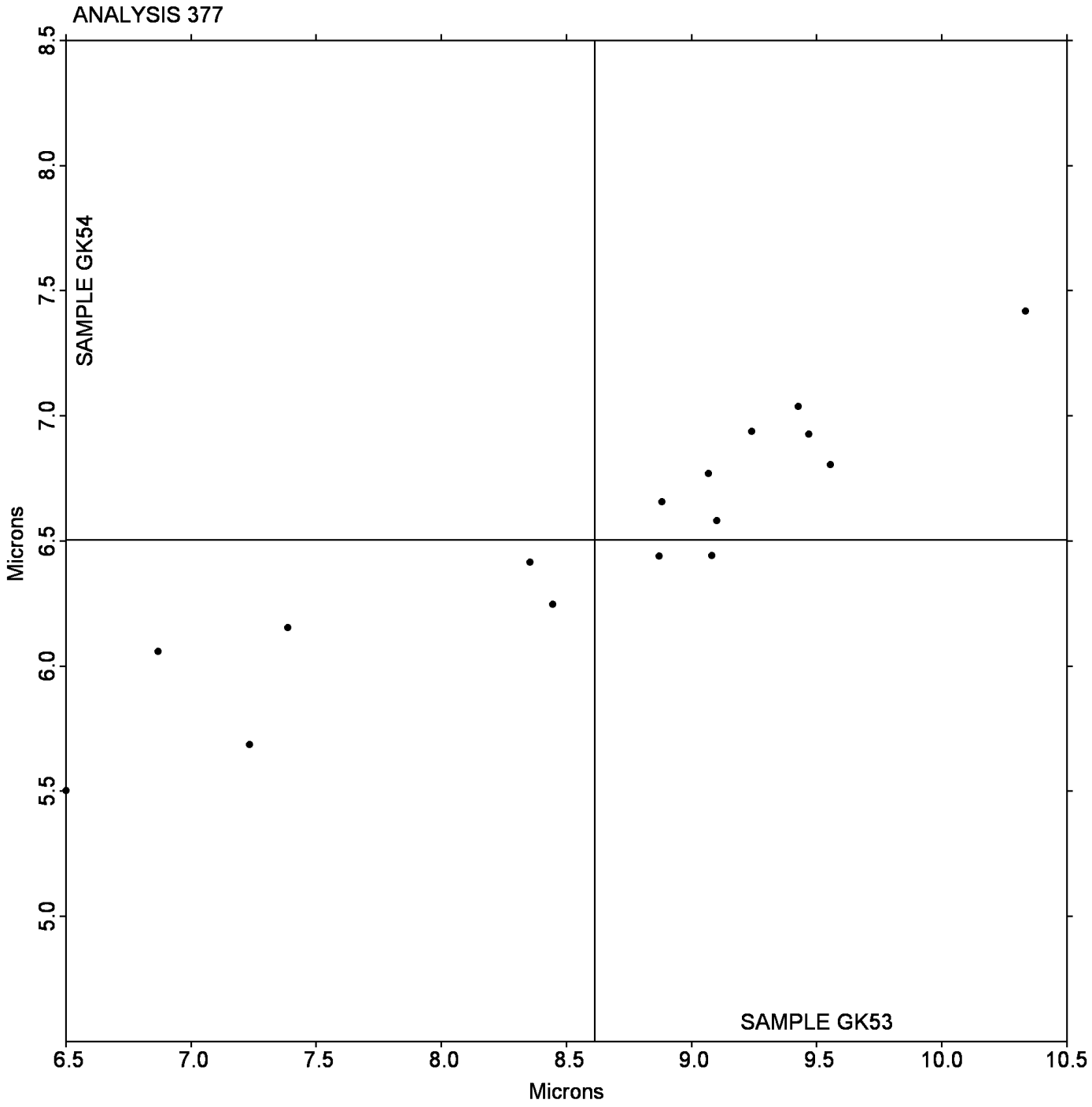
Paper & Paperboard Interlaboratory Testing Program

Analysis 377

Roughness - Print Surf Method - 2.5 to 6.0 Microns

Grand Mean Sample **GK53** = 8.6140 Microns

Grand Mean Sample **GK54** = 6.5044 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 GL53 Lab Mean	Sample GL53 Diff from Grand Mean	Sample GL53 CPV	Sample GL54 Lab Mean	Sample GL54 Diff from Grand Mean	Sample GL54 CPV	Instr Code
2JELT7		270.5	-8.3	-0.45	148.7	-5.9	-0.44	HM
2JTKVP		269.2	-9.6	-0.52	148.8	-5.8	-0.43	HM
384Y8Y		309.8	31.0	1.67	157.0	2.4	0.18	TS
3DWBT2		252.6	-26.2	-1.41	157.8	3.2	0.24	SH
3MYCNF		272.4	-6.5	-0.35	168.3	13.7	1.03	GA
4U8UDK		301.2	22.4	1.21	159.6	5.0	0.37	PP
6A3WTB	X	575.2	296.4	15.97	190.8	36.2	2.71	PP
6FE8EX		309.6	30.8	1.66	173.6	19.0	1.42	LA
6R8QT3		279.5	0.7	0.04	138.6	-16.0	-1.20	HM
7FB3EE		283.3	4.5	0.24	149.2	-5.3	-0.40	PP
7PVJY9		251.3	-27.5	-1.48	158.3	3.7	0.28	TS
7XU2F7		289.9	11.1	0.60	153.7	-0.9	-0.07	PP
8CW7NN		307.0	28.2	1.52	160.5	5.9	0.44	SH
A42FCD		253.1	-25.7	-1.39	143.5	-11.1	-0.83	TT
AP3EYC		253.0	-25.8	-1.39	149.5	-5.1	-0.38	GL
AZGZTQ		297.5	18.7	1.01	179.5	24.9	1.87	GL
BCCEQ3		286.0	7.2	0.39	149.5	-5.1	-0.38	SH
BCUR88		271.0	-7.8	-0.42	162.0	7.4	0.56	XX
CA3N2X		298.0	19.2	1.03	153.9	-0.7	-0.05	HM
CWXELP	*	232.1	-46.7	-2.52	155.2	0.6	0.05	XX
D2MBNK		277.8	-1.0	-0.05	144.5	-10.1	-0.76	HM
D8VTUZ		279.5	0.7	0.04	154.0	-0.6	-0.04	GL
EB6XVL		275.0	-3.8	-0.21	154.8	0.2	0.02	PG
EE486N		284.0	5.2	0.28	154.7	0.1	0.01	LA
EEBDMA	X	88.7	-190.2	-10.25	158.9	4.3	0.32	PP
EUADGX		271.0	-7.8	-0.42	132.8	-21.8	-1.63	VM
EYHL39		269.6	-9.2	-0.49	156.8	2.2	0.17	SH
EZ34EV		288.7	9.9	0.53	147.3	-7.3	-0.55	PP
FBA9CV		256.3	-22.5	-1.21	138.8	-15.8	-1.18	TT
FEJDW4		291.5	12.7	0.68	156.4	1.8	0.14	HM
FPRG6T	X	255.0	-23.8	-1.28	54.0	-100.6	-7.53	TS
FWEBFX		271.7	-7.1	-0.38	143.3	-11.3	-0.84	HM
GDKQHD		278.0	-0.8	-0.04	151.0	-3.6	-0.27	SH
GX3XGY		291.1	12.3	0.66	154.9	0.3	0.02	SH
H92ZQM		268.9	-9.9	-0.53	157.2	2.6	0.20	LW
H9DVWM		268.5	-10.3	-0.56	163.8	9.2	0.69	LW
HGDAY2	X	159.4	-119.4	-6.43	87.7	-66.9	-5.01	SH
HHKRKQ		267.0	-11.8	-0.64	141.9	-12.7	-0.95	HM
HU6CLN		287.5	8.7	0.47	157.9	3.3	0.25	TT
J4JBEP		270.5	-8.3	-0.45	144.2	-10.4	-0.78	HM
JX4VJF		294.9	16.1	0.87	159.9	5.3	0.40	XX
K4QEHU		238.3	-40.5	-2.18	135.3	-19.3	-1.44	TS
KWXKJG		279.6	0.8	0.04	149.0	-5.6	-0.42	HM

Paper & Paperboard Interlaboratory Testing Program

Analysis 378

Roughness - Sheffield Type

WebCode	Data Flag	Sample GL53 Lab Mean	Sample GL53 Diff from Grand Mean	Sample GL53 CPV	Sample GL54 Lab Mean	Sample GL54 Diff from Grand Mean	Sample GL54 CPV	Instr Code
LGQUL2		278.3	-0.6	-0.03	157.9	3.3	0.25	PP
MBYBYR		296.5	17.7	0.95	156.5	2.0	0.15	MP
MR4ZU4		288.3	9.5	0.51	148.1	-6.5	-0.49	XX
N2Q4TQ		251.9	-26.9	-1.45	125.4	-29.2	-2.19	TT
NFNBQR		305.8	27.0	1.45	174.4	19.8	1.48	HM
NRV8KU		309.6	30.8	1.66	160.2	5.6	0.42	HM
P9QWJM	X	295.0	16.2	0.87	467.8	313.2	23.45	PP
PQFZJP		295.4	16.6	0.89	157.3	2.7	0.20	HM
QRZTJR		260.7	-18.1	-0.98	147.0	-7.6	-0.57	TS
R9FLK2	X	209.1	-69.8	-3.76	168.6	14.0	1.05	GA
TGJ48Y		294.5	15.7	0.85	186.8	32.2	2.41	SH
UYA83Z		263.2	-15.6	-0.84	144.3	-10.3	-0.77	HM
VC94NC		283.3	4.5	0.24	162.3	7.7	0.58	HM
VEAUDX		285.0	6.2	0.33	182.5	27.9	2.09	TT
VGLKNM		241.9	-36.9	-1.99	132.5	-22.1	-1.65	HM
VPDM6D	*	280.5	1.7	0.09	185.0	30.4	2.28	TS
WGB7GC		276.0	-2.8	-0.15	138.0	-16.6	-1.24	GA
WZ9HGY		289.6	10.8	0.58	145.2	-9.4	-0.70	VM
WZE2PG		285.6	6.8	0.37	159.1	4.5	0.34	SH
XD8XQ8	*	314.0	35.2	1.90	190.2	35.6	2.67	HM
XHAYLG		274.6	-4.2	-0.23	147.5	-7.1	-0.53	PP
Y4ALUC	X	183.9	-94.9	-5.11	128.9	-25.7	-1.92	GA

Summary Statistics

	Sample GL53	Sample GL54
Grand Means	278.81 Sheffield	154.58 Sheffield
SD Btwn Labs	18.56 Sheffield	13.36 Sheffield

Statistics based on 58 of 65 reporting participants

Comments on assigned Data Flags for Test #378

6A3WTB (X) - Extreme data for Sample GL53.

EEBDMA (X) - Extreme data for Sample GL53.

FPRG6T (X) - Extreme data for Sample GL54.

HGDAY2 (X) - Extreme data.

P9QWJM (X) - Extreme data for Sample GL54.

R9FLK2 (X) - Inconsistent in testing between samples, data for Sample GL53 are low.

Y4ALUC (X) - Extreme data for Sample GL53.

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

Instrument Code List as Reported by the Labs

(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

(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

(VM) - Valmet PaperLab (was Kajaani\Robotest)

(XX) - Instrument make/model not specified by lab

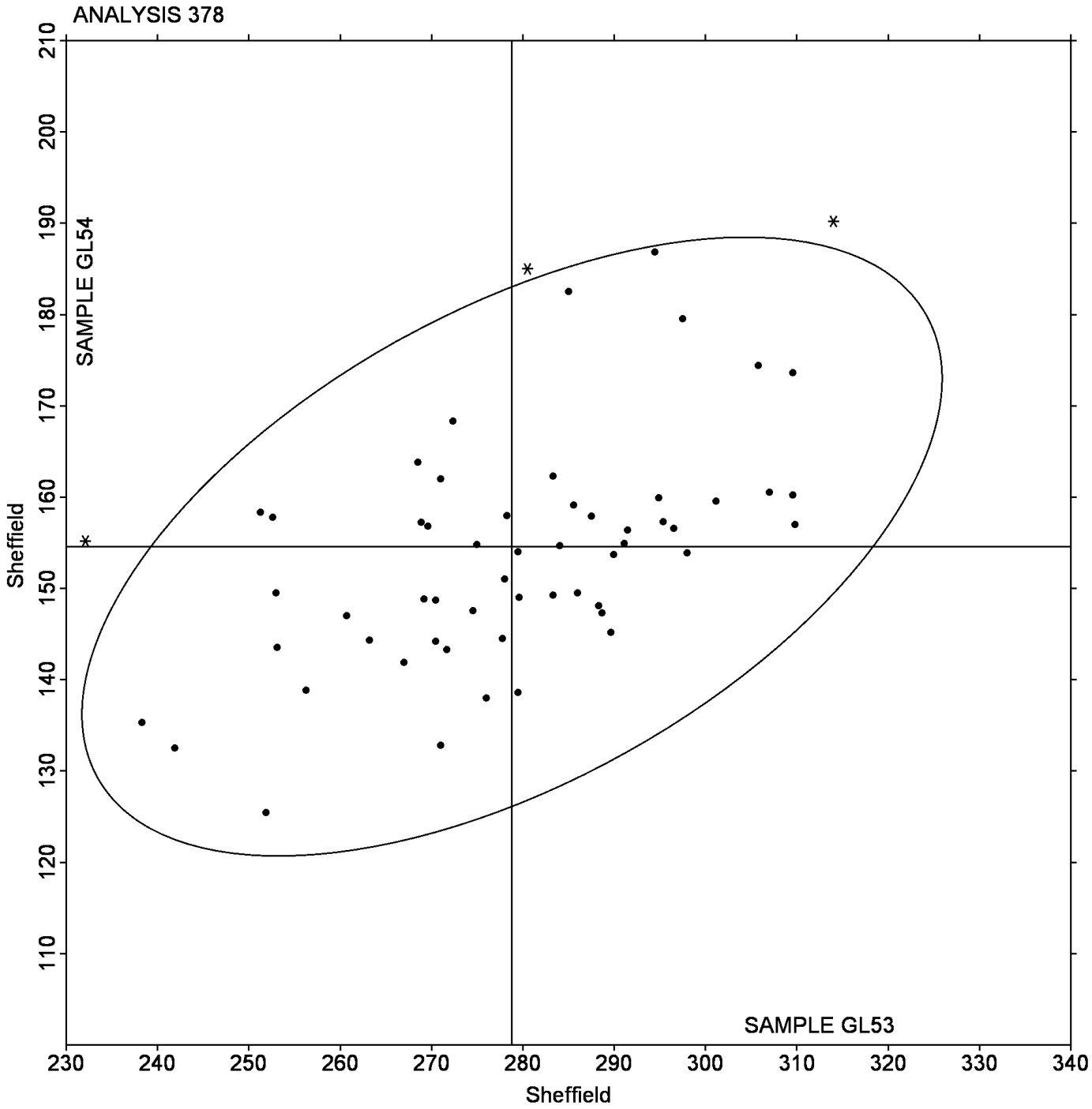
Paper & Paperboard Interlaboratory Testing Program

Analysis 378

Roughness - Sheffield Type

Grand Mean Sample **GL53** = 278.81 Sheffield

Grand Mean Sample **GL54** = 154.58 Sheffield



Paper & Paperboard Interlaboratory Testing Program

Analysis 382

Moisture in Paper

WebCode	Data Flag	Sample GM53 Lab Mean	Sample GM53 Diff from Grand Mean	Sample GM53 CPV	Sample GM54 Lab Mean	Sample GM54 Diff from Grand Mean	Sample GM54 CPV
74DHEA		3.687	-0.722	-1.69	3.796	-0.664	-1.61
8JJDK9		4.860	0.451	1.06	5.050	0.590	1.43
AQW437		4.671	0.262	0.62	4.962	0.502	1.22
BRQTW7		4.874	0.465	1.09	4.939	0.479	1.16
E87HNJ		3.880	-0.529	-1.24	4.750	0.290	0.70
FE48JY		4.125	-0.284	-0.67	4.025	-0.435	-1.05
LHHCLW		4.140	-0.269	-0.63	4.205	-0.255	-0.62
MDHCUD		4.134	-0.275	-0.65	4.072	-0.388	-0.94
MGL7U4		4.772	0.363	0.85	4.348	-0.112	-0.27
QPZZZZ		4.200	-0.209	-0.49	4.200	-0.260	-0.63
WPL93D		4.670	0.261	0.61	4.580	0.120	0.29
X9E4ZF		4.894	0.485	1.14	4.595	0.135	0.33

Summary Statistics

	Sample GM53	Sample GM54
Grand Means	4.4089 Percent	4.4602 Percent
SD Btwn Labs	0.4261 Percent	0.4126 Percent

Statistics based on 12 of 12 reporting participants

Notes for Analysis 382

No Data Flags assigned for this analysis.

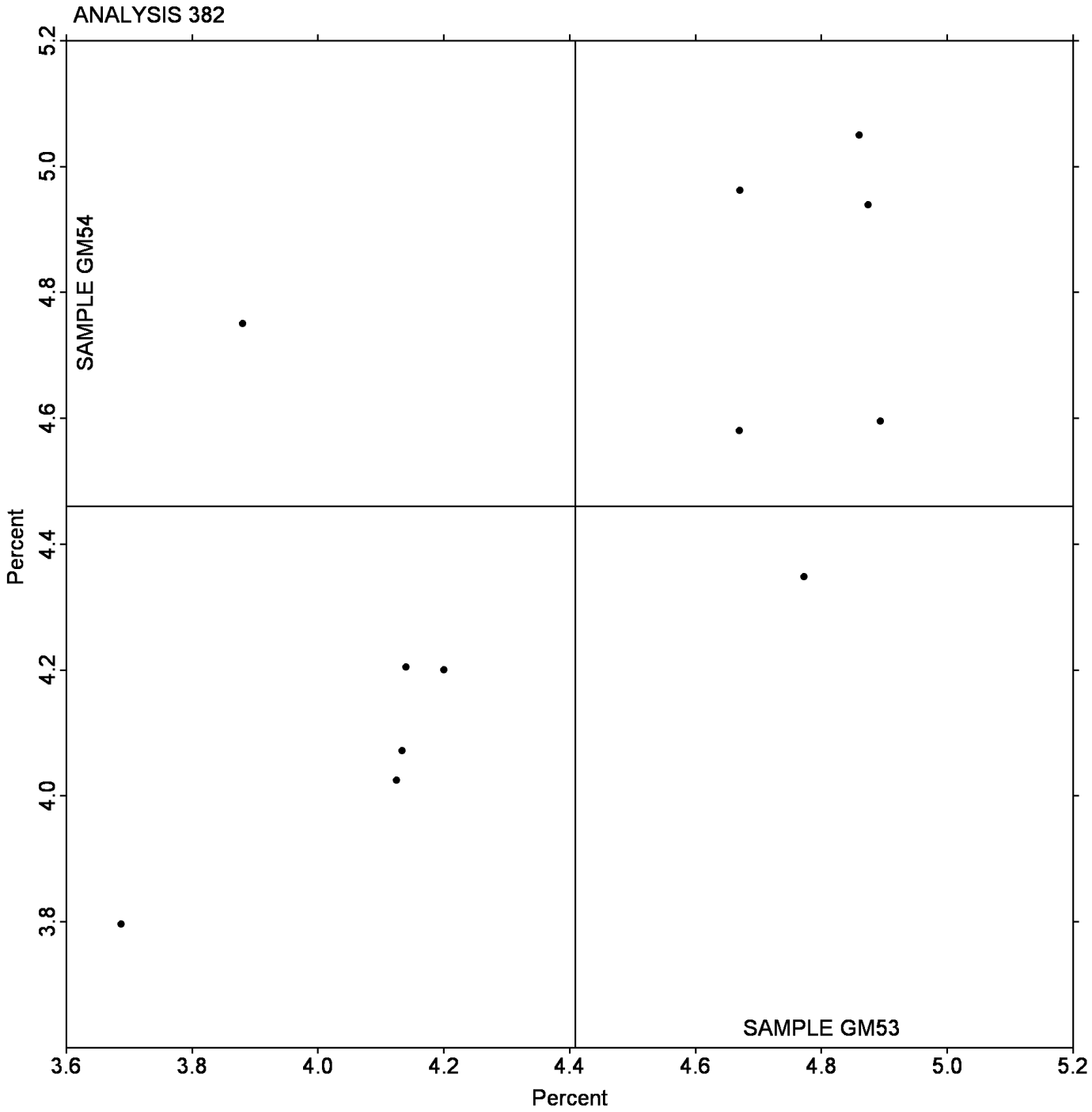
Paper & Paperboard Interlaboratory Testing Program

Analysis 382

Moisture in Paper

Grand Mean Sample **GM53** = 4.4089 Percent

Grand Mean Sample **GM54** = 4.4602 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 GN53 Lab Mean	Sample GN53 Diff from Grand Mean	Sample GN53 CPV	Sample GN54 Lab Mean	Sample GN54 Diff from Grand Mean	Sample GN54 CPV
2EWNYN		90.77	-0.19	-0.49	89.37	-0.57	-1.22
2QCFKC	*	91.02	0.06	0.14	90.86	0.92	1.99
6BDC8P		91.57	0.61	1.53	90.04	0.10	0.22
7KKEZU	*	90.16	-0.80	-2.02	88.67	-1.27	-2.73
7LVQP6		90.84	-0.12	-0.31	89.73	-0.21	-0.45
7TLLZG	*	91.36	0.40	1.01	89.40	-0.54	-1.16
9DEBDT		90.50	-0.46	-1.17	89.21	-0.73	-1.57
ALURVY		91.41	0.45	1.14	89.81	-0.13	-0.28
BG6JCJ	X	82.21	-8.75	-22.06	81.71	-8.23	-17.72
C2NG4N	X	92.72	1.75	4.42	92.19	2.25	4.84
CL3DXR		90.33	-0.63	-1.60	89.42	-0.52	-1.11
CLDQAW		90.77	-0.19	-0.49	89.43	-0.51	-1.09
CPDWUU		90.47	-0.50	-1.25	89.58	-0.36	-0.78
D9GN78		90.64	-0.32	-0.81	89.92	-0.02	-0.04
E68HPT		90.51	-0.45	-1.15	89.34	-0.60	-1.29
EPTHM2		91.11	0.15	0.37	90.19	0.25	0.55
EQ2T7X		91.04	0.08	0.19	90.21	0.27	0.59
GAGVYA		91.17	0.21	0.52	90.56	0.62	1.33
GAUMG6		90.63	-0.33	-0.84	89.72	-0.22	-0.47
GQQABK		90.44	-0.52	-1.32	89.75	-0.19	-0.40
H7BXNF		91.04	0.08	0.19	89.64	-0.30	-0.64
H8NK7U		91.12	0.16	0.40	89.98	0.04	0.09
HDEG36		90.79	-0.17	-0.44	89.79	-0.15	-0.32
HTXKLZ		90.90	-0.06	-0.16	90.12	0.18	0.39
J7U4H4		91.45	0.49	1.23	90.28	0.34	0.73
JNMF2R		91.11	0.15	0.37	90.03	0.09	0.20
LGWH4L		91.20	0.24	0.60	90.12	0.18	0.39
MUEYM7	*	92.01	1.05	2.64	91.13	1.19	2.57
NUEG42		91.71	0.75	1.88	90.51	0.57	1.23
Q4RXNP		91.23	0.27	0.67	89.92	-0.02	-0.05
QN9DP6		91.65	0.69	1.73	90.42	0.48	1.04
RRFQP4		91.19	0.23	0.58	90.64	0.70	1.51
T78T48	X	99.92	8.96	22.58	99.92	9.98	21.48
UWUP9N		90.75	-0.21	-0.53	89.78	-0.16	-0.34
VBGZZB		90.70	-0.26	-0.67	89.82	-0.12	-0.26
VHBVFF		90.77	-0.19	-0.49	89.64	-0.30	-0.64
WP4ULA		91.14	0.18	0.45	90.22	0.28	0.61
WV3ZKC		91.27	0.31	0.77	90.14	0.20	0.44
X9QG7G		90.57	-0.39	-0.99	89.75	-0.19	-0.40
XT73PB		90.80	-0.16	-0.41	89.56	-0.38	-0.81
XVX249		90.74	-0.23	-0.57	89.98	0.04	0.09
YN8LH4		91.14	0.18	0.45	90.30	0.36	0.78
YQNHW2		90.96	0.00	-0.01	89.62	-0.32	-0.68

Paper & Paperboard Interlaboratory Testing Program

Analysis 384

Opacity (89% Reflectance Backing) - Fine Papers

WebCode	Data Flag	Sample GN53 Lab Mean	Sample GN53 Diff from Grand Mean	Sample GN53 CPV	Sample GN54 Lab Mean	Sample GN54 Diff from Grand Mean	Sample GN54 CPV
Z4FZ9Q		90.63	-0.33	-0.84	90.22	0.28	0.61
ZA47ZC	X	91.32	0.36	0.90	32.08	-57.85	-124.54
ZHAM8D		90.69	-0.27	-0.69	90.12	0.18	0.39
ZMXQWP		91.42	0.46	1.15	90.57	0.63	1.36
ZQAD39		90.64	-0.32	-0.81	89.75	-0.19	-0.40

Summary Statistics

	Sample GN53	Sample GN54
Grand Means	90.963 Percent	89.937 Percent
SD Btwn Labs	0.397 Percent	0.465 Percent

Statistics based on 44 of 48 reporting participants

Comments on assigned Data Flags for Test #384

BG6JCJ (X) - Extreme data.

C2NG4N (X) - Systematic error (data for both samples are high).

T78T48 (X) - Extreme data.

ZA47ZC (X) - Extreme data for Sample GN54.

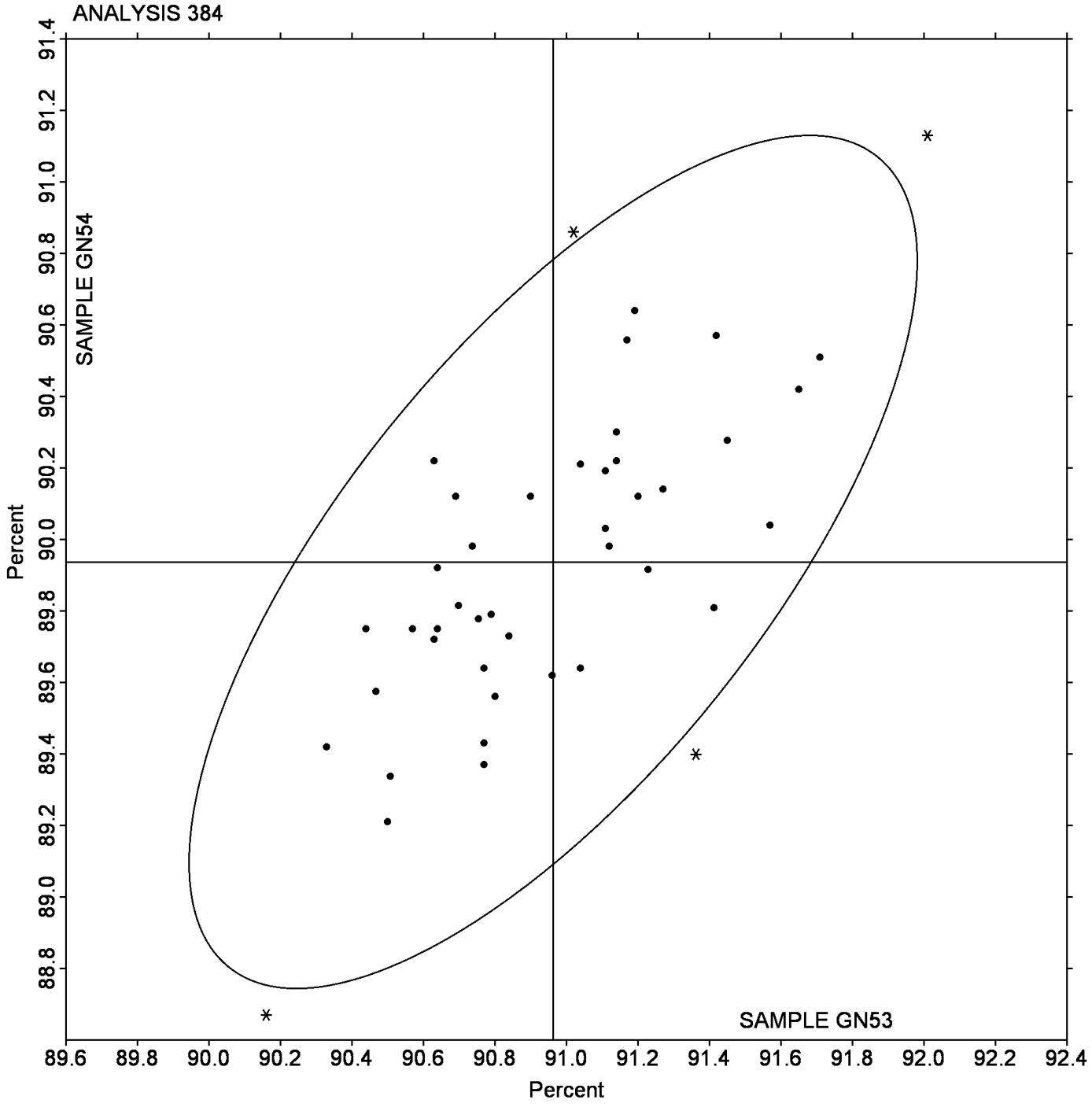
Paper & Paperboard Interlaboratory Testing Program

Analysis 384

Opacity (89% Reflectance Backing) - Fine Papers

Grand Mean Sample **GN53** = 90.963 Percent

Grand Mean Sample **GN54** = 89.937 Percent



Paper & Paperboard Interlaboratory Testing Program

Analysis 386

Opacity (Paper Backing) - Fine Papers and Newsprint

WebCode	Data Flag	Sample GP53 Lab Mean	Sample GP53 Diff from Grand Mean	Sample GP53 CPV	Sample GP54 Lab Mean	Sample GP54 Diff from Grand Mean	Sample GP54 CPV
23V66N		93.24	-0.06	-0.68	91.95	-0.12	-0.94
2HF2LR		93.34	0.04	0.43	92.04	-0.03	-0.26
2U87QN		93.35	0.05	0.49	92.34	0.27	2.04
2WWFY4		93.37	0.07	0.71	92.27	0.20	1.49
3P66VE		93.33	0.03	0.29	92.02	-0.06	-0.44
4PVZA9		93.43	0.13	1.32	92.04	-0.04	-0.27
4UXPC3		93.43	0.13	1.31	92.31	0.24	1.79
7U7NEF		93.26	-0.04	-0.47	92.04	-0.03	-0.26
89MKVH		93.24	-0.06	-0.60	92.01	-0.07	-0.51
8BT84A		93.10	-0.20	-2.11	91.94	-0.13	-1.03
9ER37A	X	92.82	-0.49	-5.06	92.08	0.00	0.01
AMLHGY		93.35	0.05	0.50	92.21	0.13	1.02
BM4A6V		93.22	-0.08	-0.83	91.84	-0.24	-1.80
DXVFBY		93.45	0.15	1.57	92.01	-0.06	-0.49
EETR4E	X	92.64	-0.67	-6.95	93.32	1.25	9.51
HR8YTB		93.28	-0.02	-0.25	92.24	0.17	1.26
MFM6LR		93.26	-0.04	-0.46	92.13	0.06	0.43
PZTQNF		93.26	-0.04	-0.44	91.96	-0.12	-0.89
Q34U8X		93.29	-0.01	-0.08	92.07	-0.01	-0.09
QDAKET		93.32	0.01	0.14	92.18	0.11	0.81
RDN2X7		93.12	-0.18	-1.85	91.99	-0.09	-0.67
RMMLYK		93.29	-0.01	-0.08	91.99	-0.08	-0.64
THPPKD		93.18	-0.12	-1.30	91.95	-0.13	-0.98
V4C9CM		93.44	0.13	1.40	92.07	-0.01	-0.07
WGUKZ3		93.40	0.10	1.00	92.14	0.06	0.49

Summary Statistics

	Sample GP53	Sample GP54
Grand Means	93.302 Percent	92.077 Percent
SD Btwn Labs	0.096 Percent	0.131 Percent

Statistics based on 23 of 25 reporting participants

Comments on assigned Data Flags for Test #386

9ER37A (X) - Extreme data for Sample GP53.

EETR4E (X) - Extreme data.

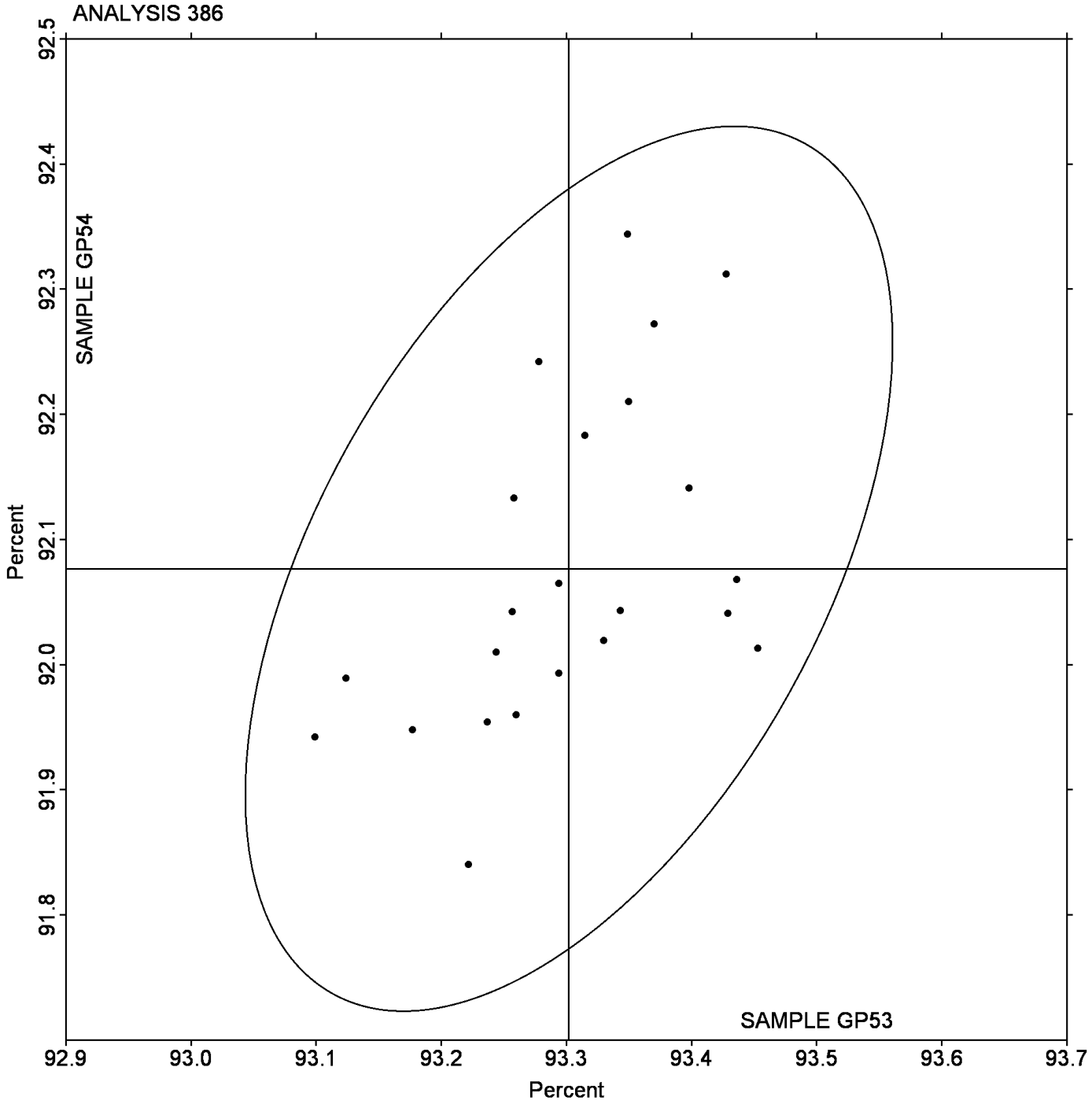
Paper & Paperboard Interlaboratory Testing Program

Analysis 386

Opacity (Paper Backing) - Fine Papers and Newsprint

Grand Mean Sample **GP53** = 93.302 Percent

Grand Mean Sample **GP54** = 92.077 Percent



Paper & Paperboard Interlaboratory Testing Program

Analysis 390

Directional Brightness

WebCode	Data Flag	Sample GR53 Lab Mean	Sample GR53 Diff from Grand Mean	Sample GR53 CPV	Sample GR54 Lab Mean	Sample GR54 Diff from Grand Mean	Sample GR54 CPV	Instr Code
22T4EB		76.45	-0.68	-0.89	76.41	-0.70	-0.92	TT
27VK97		76.51	-0.61	-0.81	76.46	-0.65	-0.86	TT
3HU7UU		76.59	-0.54	-0.71	76.56	-0.55	-0.72	TS
3LVTAY		76.79	-0.34	-0.45	76.87	-0.24	-0.32	TS
63BHFG		77.94	0.81	1.07	77.85	0.74	0.99	MG
64L26Z		76.03	-1.10	-1.45	76.00	-1.11	-1.48	TS
9YAXE2		76.65	-0.48	-0.64	76.55	-0.56	-0.74	PP
9YC2AJ		76.91	-0.21	-0.28	77.00	-0.11	-0.14	TT
A4MAGF		78.10	0.97	1.29	77.70	0.59	0.78	TT
CF6E9P		77.58	0.45	0.59	77.46	0.35	0.47	PE
ELAGF9		78.77	1.64	2.17	78.76	1.65	2.19	HD
EP4WNB		77.55	0.42	0.56	77.66	0.55	0.73	PE
FM2DGR		77.83	0.70	0.93	77.86	0.76	1.00	XX
FT6UWM		76.86	-0.26	-0.35	76.70	-0.41	-0.54	TS
GRRL3T		76.81	-0.31	-0.42	76.69	-0.42	-0.56	TT
HJ4PUQ		76.55	-0.58	-0.76	76.50	-0.61	-0.81	TT
HXW4DJ		77.93	0.80	1.06	77.59	0.48	0.64	HG
J26A9C	*	76.48	-0.65	-0.86	76.93	-0.18	-0.24	TS
JAX8WT		76.50	-0.63	-0.83	76.55	-0.56	-0.74	XX
KK3N7L		76.64	-0.49	-0.65	76.49	-0.62	-0.82	TA
KLF6NU		75.81	-1.31	-1.74	75.74	-1.37	-1.82	XX
ML89E2		76.94	-0.19	-0.25	77.10	-0.01	-0.01	TS
PLK9BT		76.69	-0.44	-0.58	76.91	-0.20	-0.26	TA
PNWLFP		77.16	0.04	0.05	77.06	-0.05	-0.07	GM
QB939R		78.48	1.35	1.78	78.38	1.27	1.68	TT
QERR2G		78.03	0.90	1.19	78.00	0.89	1.18	TS
T2TFK3		76.40	-0.73	-0.96	76.55	-0.56	-0.74	TT
T7UFX6		76.69	-0.44	-0.58	76.56	-0.55	-0.72	TS
TLTA2K		77.14	0.01	0.01	76.95	-0.16	-0.21	HD
UDG243		78.40	1.27	1.68	78.40	1.29	1.71	TS
UJ99LB		76.63	-0.50	-0.66	76.39	-0.72	-0.95	TS
V2F2KV		77.15	0.02	0.03	77.15	0.04	0.06	TA
V3MU7A		76.57	-0.56	-0.74	76.54	-0.57	-0.76	TS
XP6FYM		78.42	1.29	1.71	78.42	1.31	1.73	HD
YBY69D		76.71	-0.41	-0.55	76.85	-0.26	-0.34	TT
YTKEM2	X	80.20	3.07	4.06	80.19	3.08	4.08	PE
ZHDFBZ	*	77.91	0.79	1.04	78.34	1.23	1.63	TS

Paper & Paperboard Interlaboratory Testing Program
Analysis 390
Directional Brightness

Summary Statistics

	Sample GR53	Sample GR54
Grand Means	77.127 Percent	77.109 Percent
SD Btwn Labs	0.756 Percent	0.754 Percent

Statistics based on 36 of 37 reporting participants

Comments on assigned Data Flags for Test #390

YTKEM2 (X) - Systematic error (data for both samples are high).

Instrument Code List as Reported by the Labs

(GM) - Gretag Macbeth Color i5

(HD) - Hunter D25DP - 9000

(HG) - Hunter Labscan / XE

(MG) - Macbeth 1500/PLUS - 2025+ Color Eye

(PE) - Photovolt 577

(PP) - Technidyne Profile/Plus

(TA) - Technidyne, Diano, M.S. S-4

(TS) - Technidyne Brightimeter Micro S-5

(TT) - Technidyne Brightimeter Micro S4-M

(XX) - Instrument make/model not specified by lab

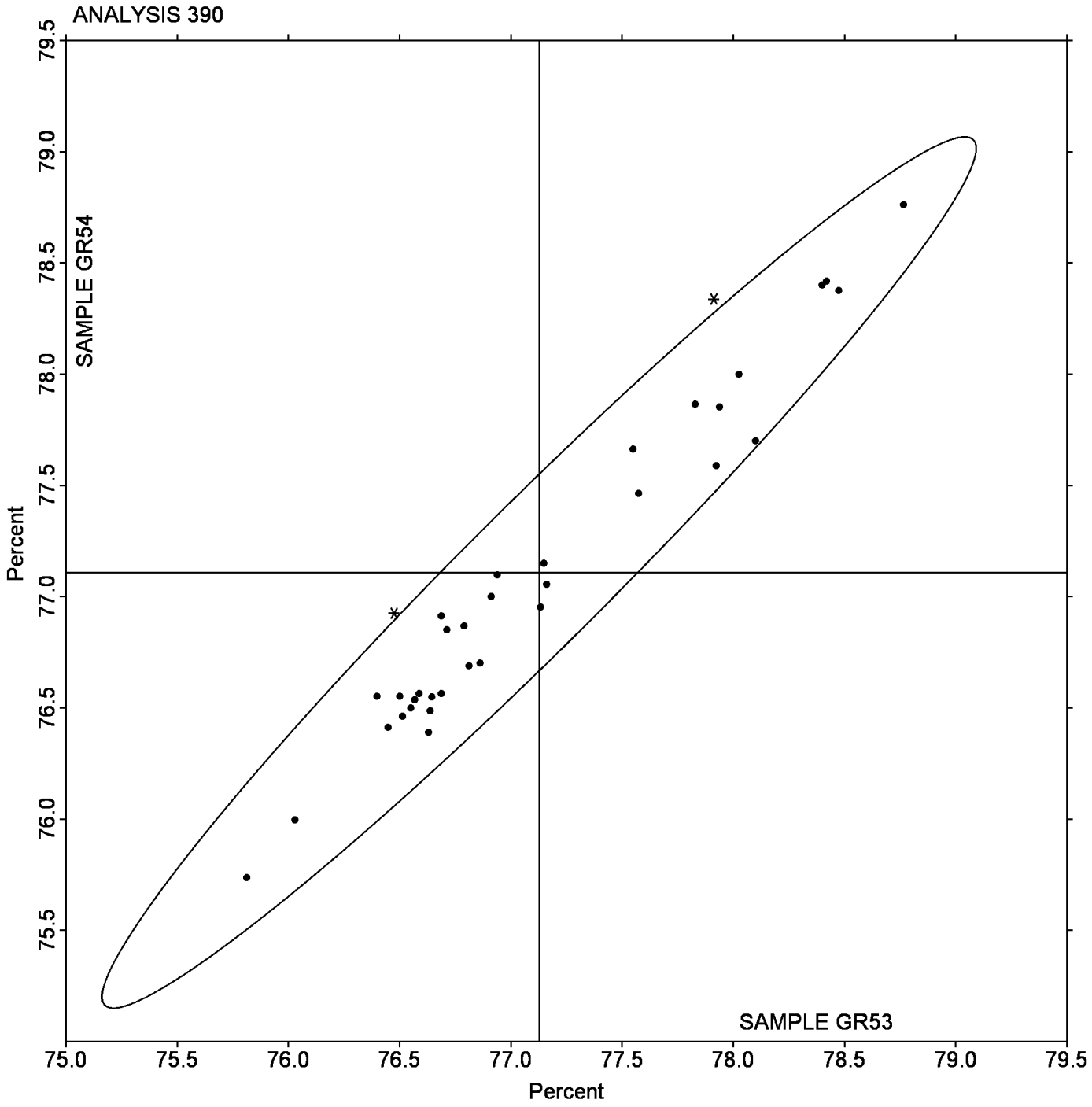
Paper & Paperboard Interlaboratory Testing Program

Analysis 390

Directional Brightness

Grand Mean Sample **GR53** = 77.127 Percent

Grand Mean Sample **GR54** = 77.109 Percent



Paper & Paperboard Interlaboratory Testing Program

Analysis 391

Directional Brightness of Fluorescent Samples

WebCode	Data Flag	Sample GZ53 Lab Mean	Sample GZ53 Diff from Grand Mean	Sample GZ53 CPV	Sample GZ54 Lab Mean	Sample GZ54 Diff from Grand Mean	Sample GZ54 CPV	Instr Code
22X26L	X	84.00	-6.90	-11.76	84.30	-6.57	-9.87	HV
3KPPBN		91.11	0.21	0.37	91.40	0.53	0.79	MG
4HA8WM		92.36	1.46	2.49	92.66	1.79	2.69	TS
4LDPJJ		90.50	-0.40	-0.68	90.47	-0.40	-0.60	TS
4RDLY4		90.69	-0.21	-0.35	90.54	-0.33	-0.49	TS
6WYKPX		90.52	-0.38	-0.65	90.50	-0.37	-0.55	TT
ANZ9YW		91.43	0.53	0.91	91.61	0.75	1.12	TS
D2HLXN	X	94.48	3.58	6.11	94.60	3.73	5.61	TS
EUW7QV		90.78	-0.12	-0.20	90.53	-0.34	-0.51	PP
HKBQCV		89.56	-1.34	-2.29	89.44	-1.42	-2.14	GM
KUE7AM		90.72	-0.18	-0.31	90.82	-0.05	-0.07	TT
LDAXVK		90.70	-0.20	-0.34	91.22	0.35	0.53	TT
LZQYQ4		90.94	0.04	0.08	90.79	-0.08	-0.11	PP
PNW4ET		90.92	0.02	0.04	90.66	-0.20	-0.31	TS
PR6BAH		90.92	0.02	0.03	90.83	-0.04	-0.05	TS
Q7G8V6		90.65	-0.25	-0.43	90.58	-0.29	-0.43	TS
U6UXEZ		91.27	0.37	0.63	91.17	0.30	0.45	TS
URPJE3		90.61	-0.29	-0.49	90.38	-0.49	-0.74	TS
X6FR4F	X	88.66	-2.24	-3.82	90.88	0.01	0.02	TZ
Z2A4LV		90.70	-0.20	-0.34	90.60	-0.27	-0.40	TT
Z68H9L		91.81	0.91	1.55	91.41	0.55	0.82	TS

Summary Statistics

	Sample GZ53	Sample GZ54
Grand Means	90.899 Percent	90.868 Percent
SD Btwn Labs	0.586 Percent	0.666 Percent

Statistics based on 18 of 21 reporting participants

Comments on assigned Data Flags for Test #391

22X26L (X) - Extreme data.

D2HLXN (X) - Extreme data.

X6FR4F (X) - Inconsistent in testing between samples (data for Sample GZ53 are low) and inconsistent within the replicate measurements for Sample GZ53.

HKBQCV - One determination removed from the Lab Mean of Sample GZ53 per Grubb's Test at 5% risk (TAPPI 1205).

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

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

Instrument Code List as Reported by the Labs

(GM) - Gretag Macbeth Color i5

(HV) - Hunter Ultrascan XE

(MG) - Macbeth 1500/Plus - 2025+ Color Eye

(PP) - Technidyne Profile/Plus

(TS) - Technidyne Brightimeter Micro S-5

(TT) - Technidyne Brightimeter Micro S4-M

(TZ) - Technibrite Model TB-1

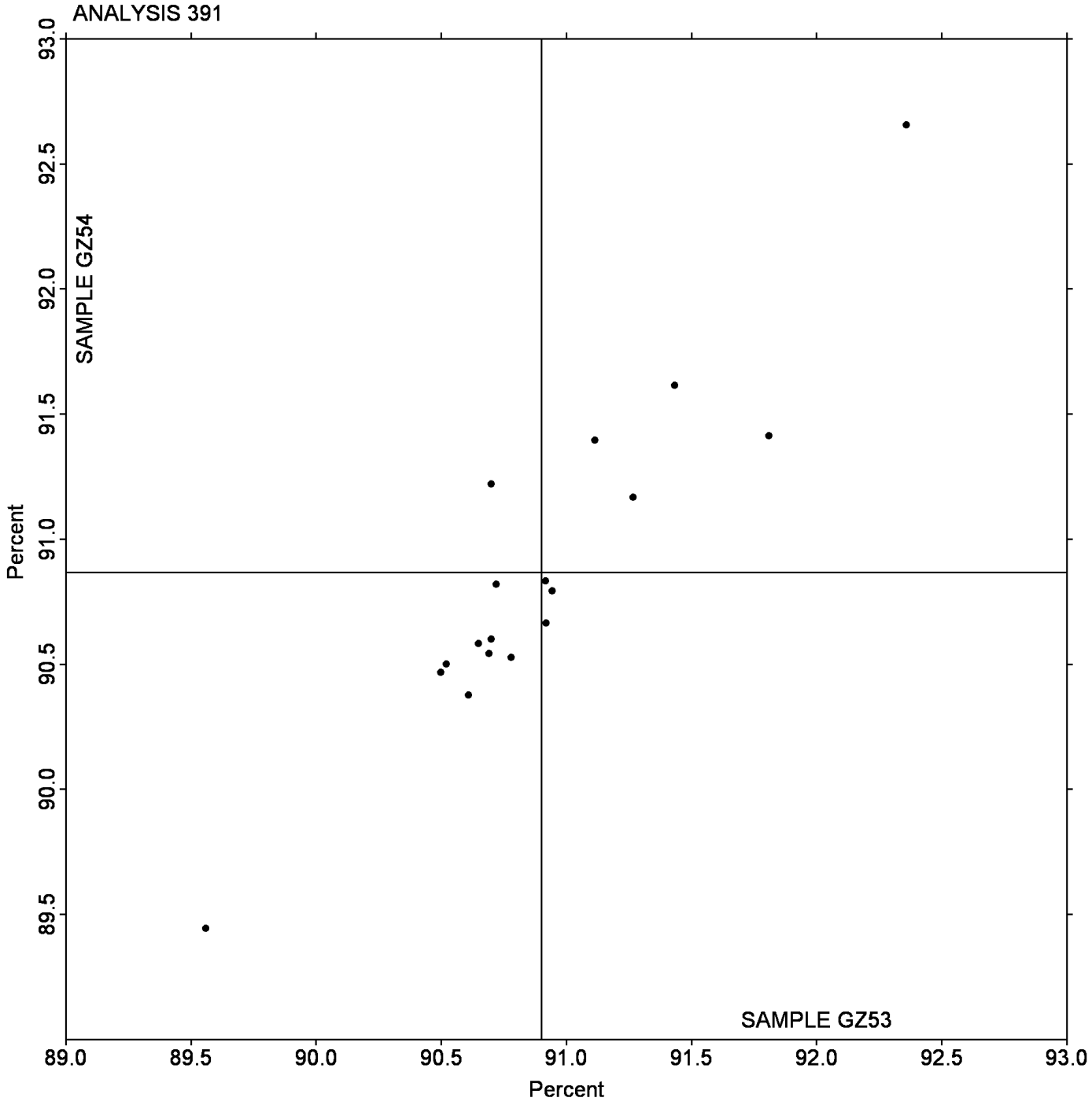
Paper & Paperboard Interlaboratory Testing Program

Analysis 391

Directional Brightness of Fluorescent Samples

Grand Mean Sample **GZ53** = 90.899 Percent

Grand Mean Sample **GZ54** = 90.868 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 GR53 Lab Mean	Sample GR53 Diff from Grand Mean	Sample GR53 CPV	Sample GR54 Lab Mean	Sample GR54 Diff from Grand Mean	Sample GR54 CPV	Instr Code
2MEWMK		76.85	-0.09	-0.30	76.87	-0.05	-0.19	TC
4DEDW2		76.76	-0.18	-0.62	76.85	-0.07	-0.25	TM
66ZWXY		77.05	0.11	0.37	76.99	0.07	0.25	TC
6YAZYV	*	76.19	-0.75	-2.57	76.37	-0.55	-1.95	LA
7A3AZ6		76.71	-0.23	-0.80	76.61	-0.31	-1.10	TC
7WAB2R		77.60	0.65	2.24	77.65	0.72	2.56	EE
9FF4KQ		77.05	0.11	0.38	76.96	0.04	0.13	PP
9YCJAH		77.10	0.16	0.56	77.12	0.20	0.70	XX
CL6DH7		77.05	0.10	0.36	76.98	0.06	0.21	TC
E3ZBED		77.44	0.49	1.69	77.48	0.56	1.98	TC
EGZMUP		76.88	-0.06	-0.21	76.96	0.03	0.12	TC
GTJPRU		77.21	0.27	0.91	77.25	0.33	1.16	TC
HD3DXU		77.05	0.11	0.37	77.05	0.13	0.46	XX
J73YMX		76.77	-0.17	-0.59	76.76	-0.17	-0.59	EF
JZQJTU		77.16	0.22	0.75	76.97	0.05	0.17	TC
MAT9JT		77.13	0.18	0.63	77.01	0.08	0.30	TC
MZG9TY		76.50	-0.44	-1.51	76.33	-0.59	-2.08	LS
N34NLZ		77.18	0.24	0.81	76.92	-0.01	-0.02	FR
NNU866		76.84	-0.10	-0.35	76.62	-0.30	-1.06	TC
P2APDY		77.07	0.12	0.42	76.89	-0.03	-0.11	TM
P3GLAH		76.92	-0.02	-0.08	76.99	0.07	0.24	TC
P82LTU		76.79	-0.15	-0.53	76.79	-0.13	-0.48	EF
QAB9HT		76.70	-0.25	-0.84	76.71	-0.22	-0.76	XX
QNZHMT		76.99	0.05	0.17	76.94	0.02	0.08	TM
R3BM8Q		77.02	0.07	0.26	76.95	0.03	0.09	TM
RALZVM		76.68	-0.27	-0.91	76.80	-0.12	-0.44	LS
RLRKXH		77.14	0.20	0.67	77.11	0.19	0.67	TM
RWL7VZ		76.93	-0.02	-0.06	76.86	-0.06	-0.22	TM
TK3XBR		77.21	0.27	0.91	77.21	0.29	1.03	TC
TXT4N3		76.34	-0.60	-2.07	76.34	-0.58	-2.07	TM
ULDW3M		76.80	-0.15	-0.50	76.93	0.01	0.04	TC
VDWPWG		76.24	-0.70	-2.40	76.32	-0.60	-2.13	LA
VFXDTB		76.79	-0.15	-0.53	76.94	0.02	0.05	TC
VMBFMQ		77.11	0.17	0.57	77.21	0.29	1.03	TM
YF22V7		76.97	0.03	0.09	76.94	0.02	0.06	TM
YFBFGU		77.13	0.18	0.63	76.95	0.03	0.09	TC
YZEPDX		77.02	0.07	0.25	77.19	0.27	0.96	TC
Z9PCU6		77.23	0.29	0.99	77.17	0.25	0.89	TM
ZYZWGH		77.18	0.24	0.81	76.98	0.06	0.20	EF

Paper & Paperboard Interlaboratory Testing Program
Analysis 392
Diffuse Brightness

Summary Statistics

	Sample GR53	Sample GR54
Grand Means	76.941 Percent	76.922 Percent
SD Btwn Labs	0.292 Percent	0.283 Percent

Statistics based on 39 of 39 reporting participants

Notes for Analysis 392

No Data Flags assigned for this analysis.

Instrument Code List as Reported by the Labs

(EE) - Datacolor Elrepho 2000
(EF) - Datacolor Elrepho 3000
(FR) - Frank Instruments
(LA) - L & W Elrepho - Autoline
(LS) - L & W Elrepho SE 070
(PP) - Technidyne Profile/Plus
(TC) - Technidyne Color Touch Series
(TM) - Technidyne Technibrite Micro TB-1C
(XX) - Instrument make/model not specified by lab

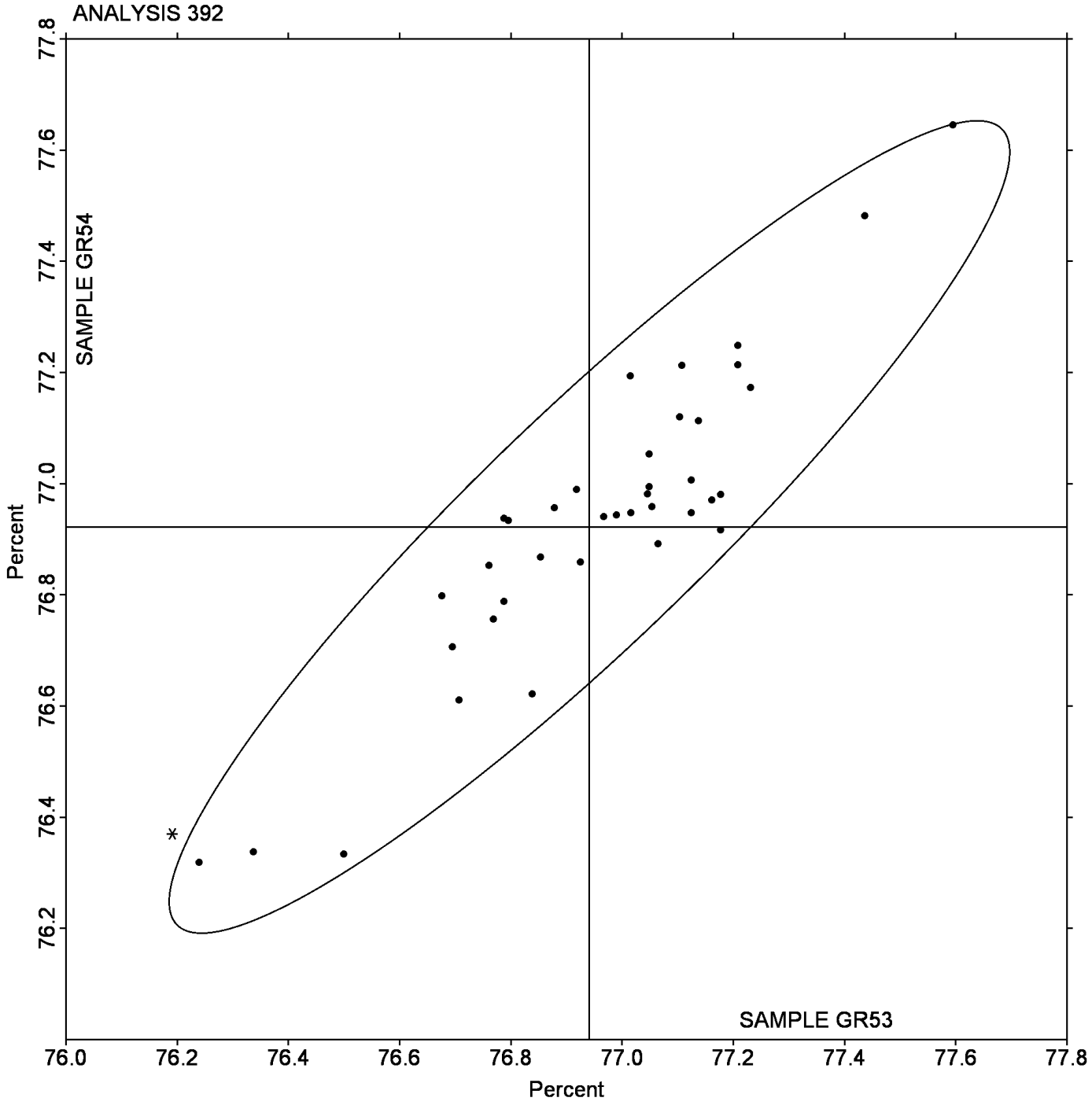
Paper & Paperboard Interlaboratory Testing Program

Analysis 392

Diffuse Brightness

Grand Mean Sample **GR53** = 76.941 Percent

Grand Mean Sample **GR54** = 76.922 Percent



Paper & Paperboard Interlaboratory Testing Program

Analysis 394

Fluorescent Component of Directional Brightness

WebCode	Data Flag	Sample GZ53 Lab Mean	Sample GZ53 Diff from Grand Mean	Sample GZ53 CPV	Sample GZ54 Lab Mean	Sample GZ54 Diff from Grand Mean	Sample GZ54 CPV	Instr Code
4VE9PR		7.778	-0.242	-0.38	6.856	-0.555	-0.79	TS
6C3MXH		7.456	-0.564	-0.89	6.866	-0.545	-0.77	TS
9KGUVW		8.710	0.690	1.09	7.972	0.561	0.80	TS
9RAEFD		7.846	-0.174	-0.28	7.312	-0.099	-0.14	TS
AWHYZ4	X	88.660	80.640	127.68	90.902	83.491	118.59	TZ
CHLCAD		8.372	0.352	0.56	7.648	0.237	0.34	PP
CKLR2P		7.600	-0.420	-0.67	6.840	-0.571	-0.81	TT
CVHE3Z	X	10.974	2.954	4.68	10.252	2.841	4.04	HV
CZKPHE		7.920	-0.100	-0.16	7.134	-0.277	-0.39	TS
DEPP44		7.584	-0.436	-0.69	7.156	-0.255	-0.36	TS
FN7TP8	X	21.994	13.974	22.13	21.252	13.841	19.66	HV
HR2LDM	*	9.776	1.756	2.78	9.540	2.129	3.02	TT
KGKF8M		7.838	-0.182	-0.29	7.318	-0.093	-0.13	TS
MM4DU2		8.976	0.956	1.51	8.696	1.285	1.83	GM
NCXTR7		7.650	-0.370	-0.59	7.104	-0.307	-0.44	TS
PRB4CK		8.254	0.234	0.37	7.454	0.043	0.06	PP
RB3KXT		7.780	-0.240	-0.38	7.220	-0.191	-0.27	TT
U3LM7R		8.290	0.270	0.43	7.360	-0.051	-0.07	TS
VRT4VB		7.900	-0.120	-0.19	7.180	-0.231	-0.33	TT
Z2G7QU		7.450	-0.570	-0.90	6.896	-0.515	-0.73	TS
Z76AG7		7.180	-0.840	-1.33	6.840	-0.571	-0.81	TS

Summary Statistics

	Sample GZ53	Sample GZ54
Grand Means	8.0200 Percent	7.4107 Percent
SD Btwn Labs	0.6316 Percent	0.7040 Percent

Statistics based on 18 of 21 reporting participants

Comments on assigned Data Flags for Test #394

AWHYZ4 (X) - Extreme data.

CVHE3Z (X) - Systematic error (data for both samples are high).

FN7TP8 (X) - Extreme data.

HR2LDM - Data appears to be transposed between Analysis 391 (Directional Brightness) and Analysis 394 (Fluorescent Component). Data switched by CTS.

Instrument Code List as Reported by the Labs

(GM) - Gretag Macbeth Color i5

(HV) - Hunter Ultrascan XE

(PP) - Technidyne Profile/Plus

(TS) - Technidyne Brightimeter Micro S-5

(TT) - Technidyne Brightimeter Micro S4-M

(TZ) - Technibrite Model TB-1

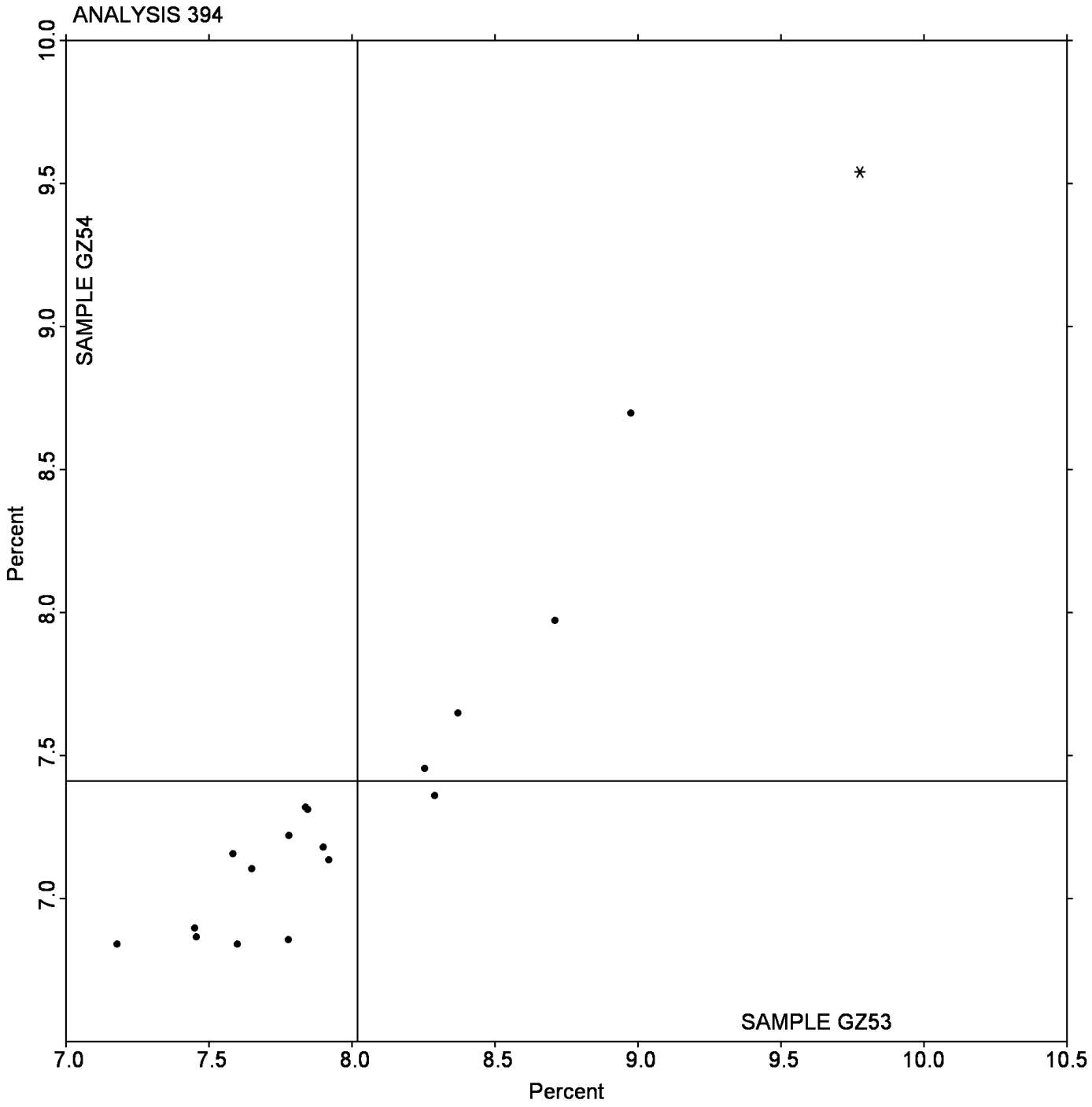
Paper & Paperboard Interlaboratory Testing Program

Analysis 394

Fluorescent Component of Directional Brightness

Grand Mean Sample **GZ53** = 8.0200 Percent

Grand Mean Sample **GZ54** = 7.4107 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 GT53 Lab Mean	Sample GT53 Diff from Grand Mean	Sample GT53 CPV	Sample GT54 Lab Mean	Sample GT54 Diff from Grand Mean	Sample GT54 CPV	Instr Code
3PQRH3		73.50	1.27	1.38	76.80	1.02	1.07	GA
4YV634		72.49	0.26	0.28	75.69	-0.09	-0.09	TH
798CEW		72.28	0.05	0.05	76.82	1.04	1.09	TG
9BP27C		73.34	1.11	1.20	77.32	1.54	1.61	TH
9GQ4ND	*	72.18	-0.05	-0.06	77.88	2.10	2.19	TH
9M6Z6E		73.81	1.58	1.71	76.09	0.31	0.33	TH
ADJJ6X		72.59	0.36	0.39	75.62	-0.16	-0.16	TG
AMJEW2		73.32	1.08	1.17	76.64	0.86	0.90	TG
DCNU8Z		72.00	-0.23	-0.25	75.78	0.00	0.00	TG
EQ8JG8		70.78	-1.45	-1.57	74.67	-1.11	-1.15	GM
F3QW93		70.69	-1.54	-1.67	74.01	-1.77	-1.84	XX
J79KL6		71.65	-0.58	-0.63	74.71	-1.07	-1.11	PP
JM8FG3		71.01	-1.22	-1.32	76.03	0.25	0.27	TH
KXHWJM		72.27	0.04	0.04	75.35	-0.43	-0.44	TG
L37Y4Y		71.47	-0.76	-0.82	75.20	-0.58	-0.60	PP
MTEPBU		72.33	0.10	0.11	74.25	-1.53	-1.59	XX
NHR7AV		72.36	0.13	0.14	75.94	0.16	0.17	XX
Q8AZF4		71.87	-0.36	-0.39	74.97	-0.81	-0.85	GM
QQKCH8		71.70	-0.53	-0.58	74.79	-0.99	-1.03	TH
RPCZG3		71.09	-1.14	-1.24	74.82	-0.96	-1.00	GM
RQWCF9		73.80	1.57	1.70	76.43	0.65	0.68	HG
RUUTVN		71.31	-0.92	-1.00	75.67	-0.11	-0.11	ZH
U4W4FP		73.41	1.18	1.28	76.37	0.59	0.62	TH
VFYM8A		72.68	0.45	0.49	76.25	0.47	0.49	TH
XWLFB8		71.85	-0.38	-0.41	76.30	0.52	0.55	VM
YLNFCF	X	69.27	-2.96	-3.21	69.59	-6.19	-6.45	TH

Summary Statistics

	Sample GT53	Sample GT54
Grand Means	72.231 Gloss Units	75.776 Gloss Units
SD Btwn Labs	0.923 Gloss Units	0.959 Gloss Units

Statistics based on 25 of 26 reporting participants

Comments on assigned Data Flags for Test #395

YLNFCF (X) - Extreme data.

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

Instrument Code List as Reported by the Labs

(GA) - BYK-Gardner (model not specified)
(GM) - BYK-Gardner micro-gloss
(HG) - Hunter ProGloss 75
(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

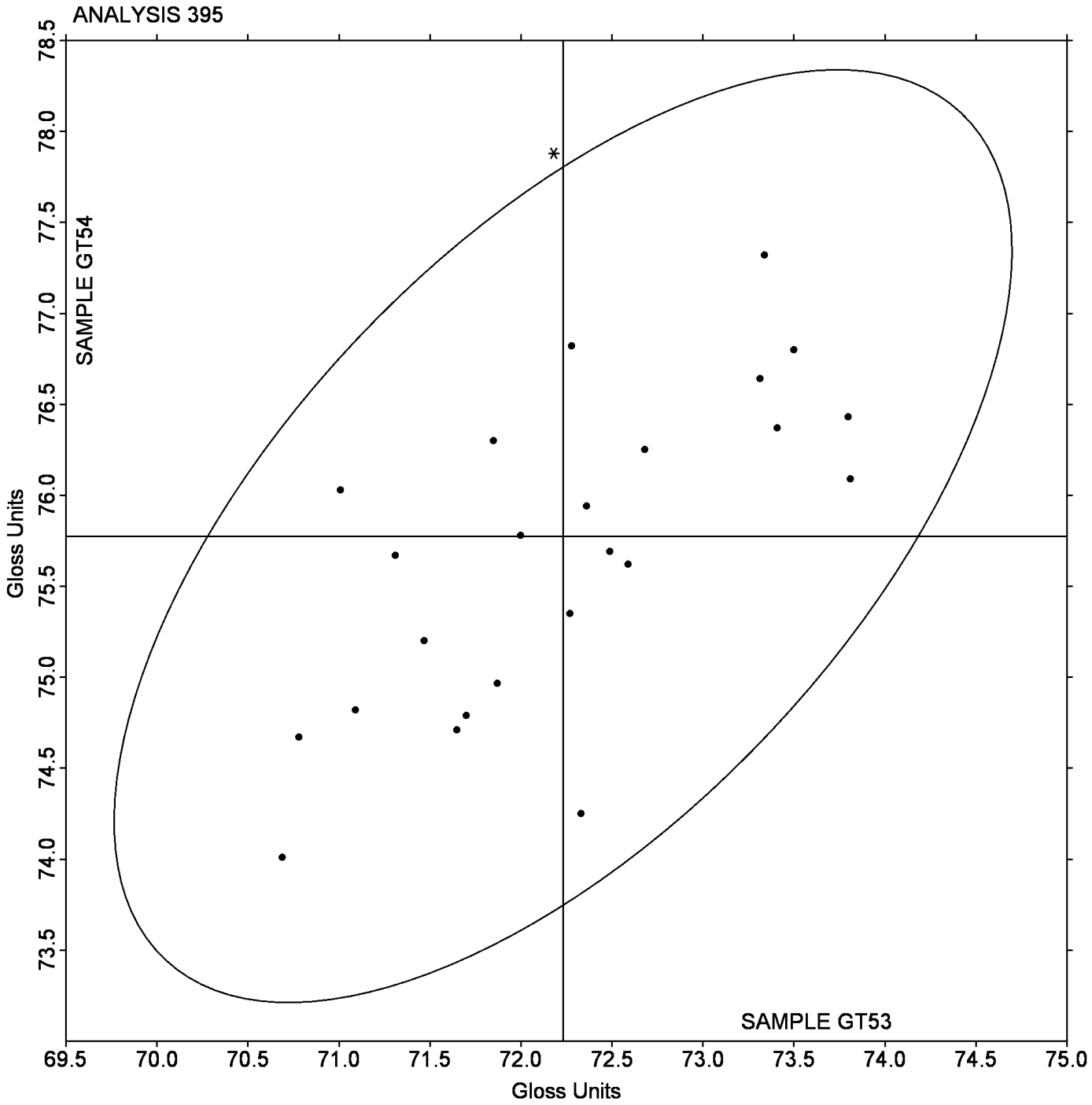
Paper & Paperboard Interlaboratory Testing Program

Analysis 395

Specular Gloss at 75 Degrees - High Range

Grand Mean Sample **GT53** = 72.231 Gloss Units

Grand Mean Sample **GT54** = 75.776 Gloss Units



Paper & Paperboard Interlaboratory Testing Program

Analysis 396

Specular Gloss at 75 Degrees - Low Range

WebCode	Data Flag	Sample GU53 Lab Mean	Sample GU53 Diff from Grand Mean	Sample GU53 CPV	Sample GU54 Lab Mean	Sample GU54 Diff from Grand Mean	Sample GU54 CPV	Instr Code
2ER99H		36.30	0.44	0.21	40.43	0.90	0.56	PP
4A8676		36.96	1.10	0.53	40.81	1.28	0.80	PP
6LW4W8		35.09	-0.77	-0.37	39.80	0.27	0.17	TG
9QWATT		35.77	-0.09	-0.04	40.68	1.14	0.72	XX
DXTYZ7		37.67	1.81	0.87	37.69	-1.84	-1.15	TH
HQ8AV8		41.13	5.27	2.54	41.15	1.62	1.01	TH
JBAKE2		35.43	-0.43	-0.21	40.26	0.73	0.46	TH
JZFK7N		34.71	-1.15	-0.55	40.56	1.03	0.64	HN
MJGCJF		36.07	0.21	0.10	41.03	1.50	0.94	TG
MWB2WY		34.77	-1.09	-0.52	39.51	-0.02	-0.01	GM
MYX3NA		37.98	2.12	1.02	37.93	-1.60	-1.00	TG
N76NZN		36.21	0.36	0.17	41.28	1.75	1.09	TG
QFGG2N		32.33	-3.53	-1.70	36.42	-3.11	-1.94	XX
R8H6D7		32.72	-3.14	-1.51	36.66	-2.87	-1.79	WG
UUMPBN		36.10	0.24	0.12	39.80	0.27	0.17	TH
XKY9TW		34.46	-1.40	-0.67	38.49	-1.04	-0.65	GM

Summary Statistics

	Sample GU53	Sample GU54
Grand Means	35.856 Gloss Units	39.531 Gloss Units
SD Btwn Labs	2.078 Gloss Units	1.600 Gloss Units

Statistics based on 16 of 16 reporting participants

Notes for Analysis 396

No Data Flags assigned for this analysis.

Instrument Code List as Reported by the Labs

(GM) - BYK-Gardner micro-gloss
(HN) - Hunter D-48
(PP) - Technidyne Profile/Plus
(TG) - Technidyne T480
(TH) - Technidyne T480A
(WG) - Zehntner ZLR 1050M
(XX) - Instrument make/model not specified by lab

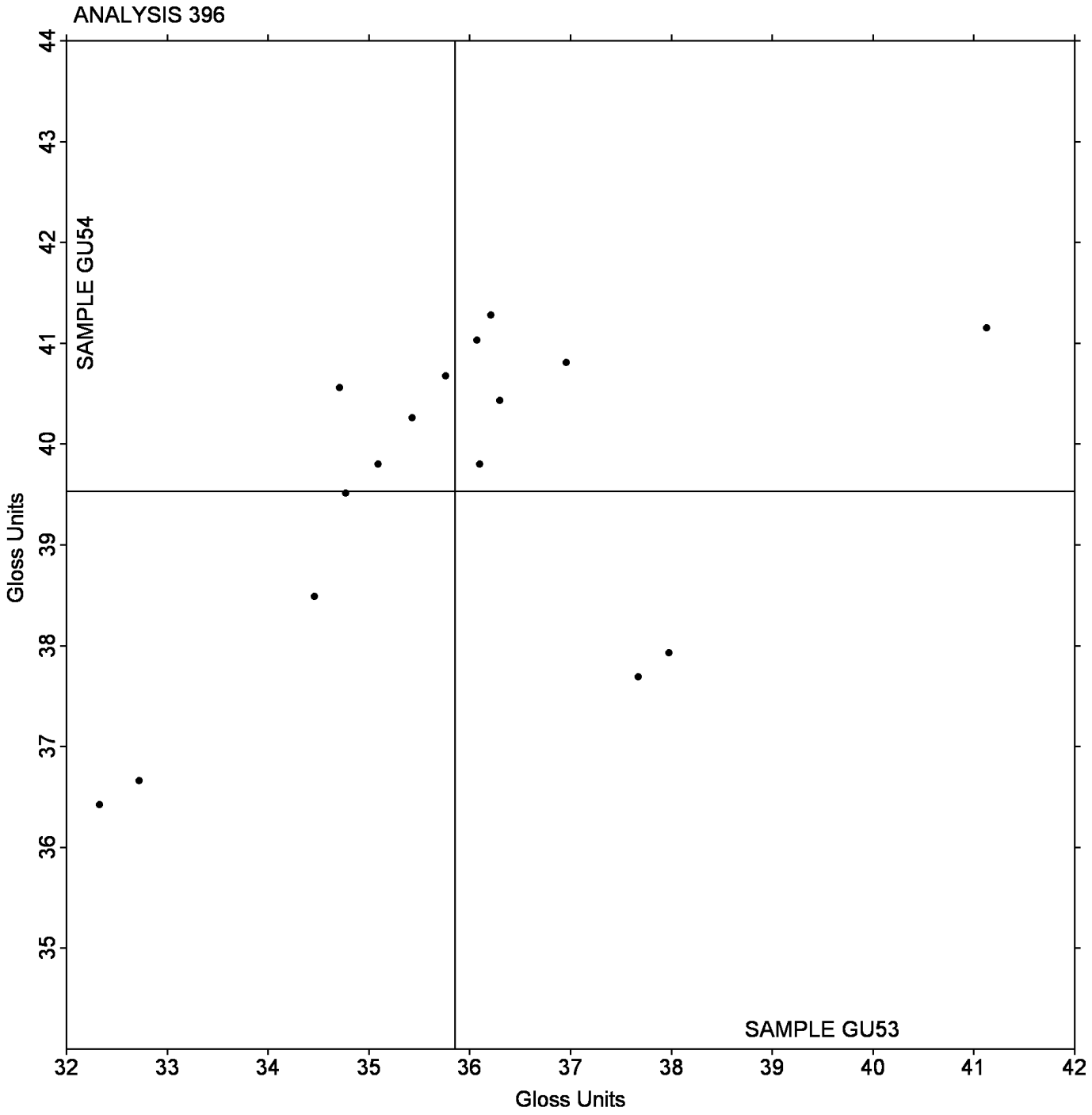
Paper & Paperboard Interlaboratory Testing Program

Analysis 396

Specular Gloss at 75 Degrees - Low Range

Grand Mean Sample **GU53** = 35.856 Gloss Units

Grand Mean Sample **GU54** = 39.531 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 GW53 Lab Mean	Sample GW53 Diff from Grand Mean	Sample GW53 CPV	Sample GW54 Lab Mean	Sample GW54 Diff from Grand Mean	Sample GW54 CPV
2KJV9B		87.80	-0.51	-0.84	90.76	-0.73	-1.11
2NUKBD		88.61	0.30	0.50	91.61	0.12	0.19
2YU2BG		88.83	0.52	0.85	92.45	0.96	1.47
3M6XNM		87.66	-0.65	-1.07	90.49	-1.00	-1.53
63LCRK		88.70	0.39	0.64	92.35	0.86	1.32
6P3PPE		88.24	-0.07	-0.11	91.44	-0.05	-0.08
78BBL7		88.86	0.55	0.91	91.45	-0.04	-0.06
82HLKT		87.86	-0.45	-0.75	90.54	-0.95	-1.45
89YNLG		88.05	-0.26	-0.43	91.06	-0.43	-0.66
CZDMDF		88.24	-0.07	-0.11	91.55	0.06	0.09
DKUU82		88.67	0.36	0.60	92.00	0.51	0.79
DPARUB		88.42	0.11	0.18	91.27	-0.22	-0.33
DYYK32		88.67	0.36	0.59	92.13	0.65	0.99
G2FYFC		88.40	0.09	0.15	91.65	0.16	0.25
GC87P3	*	86.66	-1.65	-2.72	89.94	-1.55	-2.37
L4D6ED		88.68	0.37	0.61	91.74	0.25	0.39
LEHBB2		87.11	-1.20	-1.98	90.76	-0.73	-1.11
MC2W9C		88.75	0.44	0.73	91.98	0.49	0.75
MNRBRZ		88.69	0.38	0.63	91.98	0.49	0.76
MXAXH3	X	81.17	-7.14	-11.78	84.58	-6.91	-10.58
PDEPCQ	*	90.00	1.69	2.79	93.12	1.63	2.50
PKA32K		87.89	-0.42	-0.70	91.29	-0.20	-0.31
QK48VK	*	88.28	-0.03	-0.05	92.46	0.97	1.49
R87EFM		88.74	0.44	0.72	91.16	-0.33	-0.50
RAWUAA		87.85	-0.46	-0.76	90.73	-0.76	-1.16
RHRY2Q		88.69	0.38	0.63	91.99	0.50	0.77
T2TXGJ		88.28	-0.03	-0.04	91.59	0.11	0.16
TCQYUM		88.08	-0.22	-0.37	91.26	-0.23	-0.35
TNABCR		88.65	0.34	0.56	91.56	0.07	0.11
TQRW2M		88.34	0.04	0.06	91.46	-0.03	-0.04
VBD48L		88.44	0.13	0.21	91.59	0.11	0.16
VUYBDH		88.40	0.09	0.15	91.32	-0.17	-0.25
X3NNFE		87.28	-1.03	-1.71	90.67	-0.81	-1.24
XAFPGD		88.89	0.58	0.96	91.91	0.42	0.65
Z9VGTF		87.80	-0.51	-0.84	91.31	-0.18	-0.27
ZJY7WH	X	91.10	2.79	4.61	91.00	-0.49	-0.74

Summary Statistics

	Sample GW53	Sample GW54
Grand Means	88.309 g/sq m	91.486 g/sq m
SD Btwn Labs	0.606 g/sq m	0.654 g/sq m

Statistics based on 34 of 36 reporting participants

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

Comments on assigned Data Flags for Test #398

MXAXH3 (X) - Extreme data.

ZJY7WH (X) - Inconsistent in testing between samples, data for Sample GW53 are high.

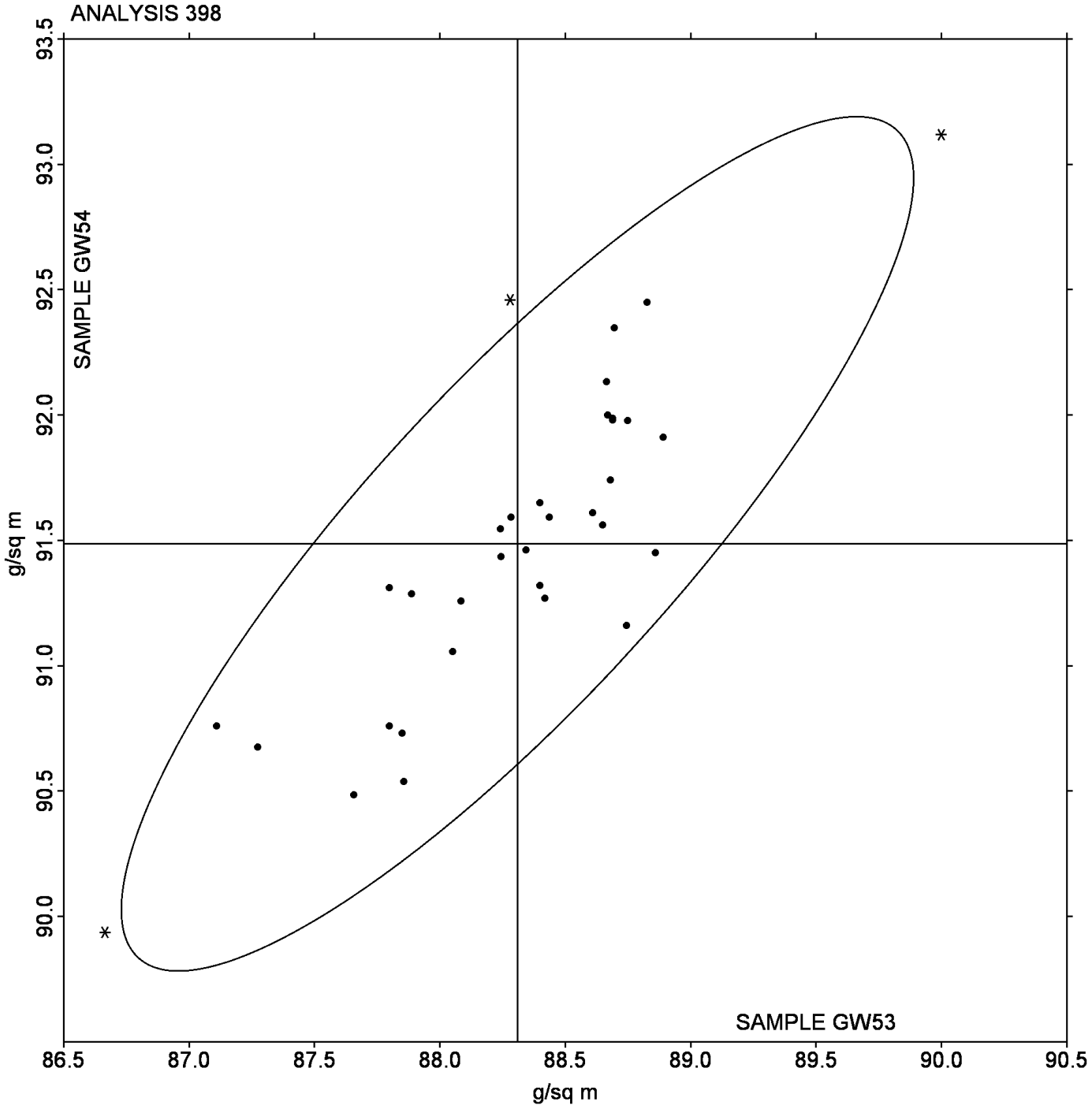
Paper & Paperboard Interlaboratory Testing Program

Analysis 398

Grammage (Mass per Unit Area)

Grand Mean Sample **GW53** = 88.309 g/sq m

Grand Mean Sample **GW54** = 91.486 g/sq m



Paper & Paperboard Interlaboratory Testing Program

Analysis 399

Sizing Test (Hercules Type)

WebCode	Data Flag	Sample GX53 Lab Mean	Sample GX53 Diff from Grand Mean	Sample GX53 CPV	Sample GX54 Lab Mean	Sample GX54 Diff from Grand Mean	Sample GX54 CPV
2C7QM7	*	85.58	14.97	0.58	77.16	30.61	2.01
3PNJDJ		67.40	-3.21	-0.13	51.10	4.55	0.30
4F9TZJ		115.15	44.54	1.73	69.68	23.13	1.52
787EWV		45.00	-25.61	-1.00	31.68	-14.87	-0.98
7JAG26		56.66	-13.95	-0.54	37.75	-8.80	-0.58
7UTDZ2		90.76	20.15	0.78	57.67	11.12	0.73
AJ6L23		132.82	62.21	2.42	77.13	30.58	2.01
AWJL72		86.80	16.19	0.63	43.60	-2.95	-0.19
B3C7G3		78.47	7.86	0.31	50.92	4.37	0.29
B7UXJC		65.68	-4.93	-0.19	48.70	2.15	0.14
B86WKM		43.42	-27.19	-1.06	37.89	-8.66	-0.57
BEFWHP		98.64	28.03	1.09	70.41	23.86	1.57
BKWWRM		53.97	-16.64	-0.65	42.97	-3.58	-0.24
BMC4AN		114.94	44.33	1.73	64.28	17.73	1.16
DGKHLM		118.34	47.73	1.86	72.83	26.28	1.73
DLJDMF		57.70	-12.91	-0.50	40.00	-6.55	-0.43
DUCPH9		57.50	-13.11	-0.51	35.40	-11.15	-0.73
E84B2B		53.88	-16.73	-0.65	31.52	-15.03	-0.99
FHRJKQ		60.95	-9.66	-0.38	39.85	-6.70	-0.44
GNCDDM		74.45	3.84	0.15	51.70	5.15	0.34
HNC8KE		62.43	-8.18	-0.32	32.81	-13.74	-0.90
KKUBEY		74.41	3.80	0.15	51.00	4.45	0.29
M8UE2W		86.66	16.05	0.63	40.10	-6.45	-0.42
NZ6C36		82.97	12.36	0.48	48.71	2.16	0.14
QZTMRP		73.27	2.66	0.10	48.91	2.36	0.15
TT482H		58.93	-11.68	-0.45	42.49	-4.06	-0.27
TW9EGU		19.80	-50.81	-1.98	16.40	-30.15	-1.98
VCNQ3E		60.80	-9.81	-0.38	49.25	2.70	0.18
VJG4K2		55.47	-15.14	-0.59	35.35	-11.20	-0.74
WFUPAJ		42.80	-27.81	-1.08	24.40	-22.15	-1.45
XQT27Q		44.48	-26.13	-1.02	39.38	-7.17	-0.47
ZAFGEC		39.40	-31.21	-1.22	28.70	-17.85	-1.17

Summary Statistics

	Sample GX53	Sample GX54
Grand Means	70.610 Seconds	46.554 Seconds
SD Btwn Labs	25.676 Seconds	15.228 Seconds

Statistics based on 32 of 32 reporting participants

Notes for Analysis 399

No Data Flags assigned for this analysis.

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

Analysis Notes:

AJ6L23 - One determination removed from the Lab Mean of Sample GX54 per Grubb's Test at 1% risk (TAPPI 1205).

Paper & Paperboard Interlaboratory Testing Program

Analysis 399

Sizing Test (Hercules Type)

Grand Mean Sample **GX53** = 70.610 Seconds

Grand Mean Sample **GX54** = 46.554 Seconds