Collaborative Testing Services, Inc.

Paper & PaperboardTesting Program

Summary Report #255G-December 2011

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
+1-571-434-1925
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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		
2CVV9J		GA75	90.15	1.47	-0.32	-0.04	-0.02	0.03	0.05		TS
		GA76	90.11	1.45	-0.29						
3Z3P27		GA75	93.11	1.04	-0.95	0.02	0.06	-0.02	0.06		HE
		GA76	93.13	1.10	-0.96						
4GLZ3Y		GA75	90.29	1.18	-0.95	0.06	0.02	0.00	0.06		HH
		GA76	90.35	1.20	-0.94						
722BTM		GA75	92.58	1.32	-0.71	-0.02	0.00	0.03	0.03		EH
		GA76	92.56	1.31	-0.69						
77GU2W		GA75	90.04	1.72	-0.58	0.01	-0.04	-0.04	0.06		TS
		GA76	90.05	1.68	-0.62						
7DWDHB		GA75	90.52	2.94	-1.03	0.11	0.02	-0.09	0.14	X	TS
		GA76	90.63	2.97	-1.12						
9BLCB9		GA75	90.62	1.55	-0.52	-0.07	0.00	0.03	0.08		TB
		GA76	90.54	1.55	-0.49						
9LKXQF		GA75	90.50	1.19	-0.45	0.01	-0.01	0.01	0.02		LS
		GA76	90.51	1.18	-0.44						
AJQNYQ		GA75	92.75	1.20	-0.29	-0.02	0.00	0.02	0.03		LA
		GA76	92.73	1.20	-0.27						
B8EHL3		GA75	90.71	1.13	-0.34	0.02	0.02	-0.02	0.03		TC
		GA76	90.73	1.15	-0.36						
CX4RGQ		GA75	90.67	0.92	-1.32	-0.07	-0.01	0.01	0.08		HH
		GA76	90.59	0.91	-1.31						
DJHKWB		GA75	90.99	1.86	-1.91	-0.04	-0.02	0.06	0.07		TP
		GA76	90.95	1.85	-1.85						
EQVWRM		GA75	90.08	-0.57	1.60	0.02	0.08	0.00	0.08		TS
		GA76	90.10	-0.50	1.60						
GHDHLM	X	GA75	91.99	1.78	-4.88	-0.05	-0.01	0.01	0.06		HV
		GA76	91.94	1.77	-4.86						
GKWJHU		GA75	92.42	1.29	-0.56	0.02	0.00	-0.01	0.02		LS
		GA76	92.44	1.29	-0.57						
JY8U8T		GA75	90.64	1.43	-0.57	-0.03	0.00	0.00	0.03		TM
		GA76	90.61	1.43	-0.56						
NNFZYF		GA75	90.08	-0.69	1.66	-0.01	0.02	0.00	0.02		TS
		GA76	90.08	-0.67	1.67						

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	
PGTACK		GA75	92.54	0.71	0.88	-0.04	0.00	0.03	0.05	MI
		GA76	92.50	0.72	0.91					
QP36LJ		GA75	89.24	1.81	-0.75	0.09	0.10	-0.04	0.14	XX
		GA76	89.33	1.90	-0.79					
QRM8DP		GA75	90.65	1.39	-0.76	-0.01	-0.01	0.04	0.04	EH
		GA76	90.63	1.37	-0.72					
R8E9JV		GA75	90.82	1.65	-1.16	0.01	0.00	0.00	0.01	MK
		GA76	90.83	1.64	-1.16					
RBGZZ9		GA75	91.28	1.25	-0.69	-0.01	-0.05	0.02	0.05	HH
		GA76	91.28	1.21	-0.67					
RCBX49		GA75	92.54	1.48	-1.11	-0.01	0.02	-0.05	0.05	XS
		GA76	92.54	1.51	-1.15					
RR3U2X		GA75	90.71	1.26	-0.37	0.02	0.01	-0.04	0.05	TC
		GA76	90.74	1.27	-0.41					
RY36HN		GA75	91.43	0.10	1.13	0.00	-0.04	0.04	0.05	HG
		GA76	91.43	0.06	1.17					
TYJGY9		GA75	90.00	1.58	-0.35	0.01	0.02	-0.05	0.05	TS
		GA76	90.00	1.60	-0.40					
U4MU8Q		GA75	90.72	1.19	-0.40	-0.01	0.01	-0.01	0.02	TC
		GA76	90.71	1.20	-0.41					
UJK7FU		GA75	90.89	1.77	-0.21	-0.06	-0.04	-0.02	0.08	TS
		GA76	90.83	1.73	-0.23					
VEQJBD		GA75	90.46	1.11	-1.01	-0.04	-0.02	0.06	0.07	HA
		GA76	90.42	1.09	-0.95					
VL2MD7		GA75	91.02	1.70	-0.44	0.02	0.04	0.00	0.04	TS
		GA76	91.04	1.74	-0.44					
WE67KE		GA75	92.42	0.69	1.22	-0.07	0.03	-0.10	0.12	XX
		GA76	92.35	0.72	1.13					

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										
		GA75	91.029	1.222	-0.374	-0.004	0.006	-0.004	0.057	
		GA76	91.024	1.228	-0.378					
Stnd Dev Btwn Labs										
		GA75	0.992	0.693	0.851	0.043	0.033	0.037	0.033	
		GA76	0.981	0.690	0.848					

Statistics based on 30 of 31 reporting participants

Comments assigned on Data Flags for Test #350

GHDHLM (X) - Low b values for both samples.

Instrument Code List as Reported by the Labs

(EH) - Datacolor Elrepho SF450

(HA) - Hunter D25 (A type Optical Head)

(HE) - Hunter LabScan

(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

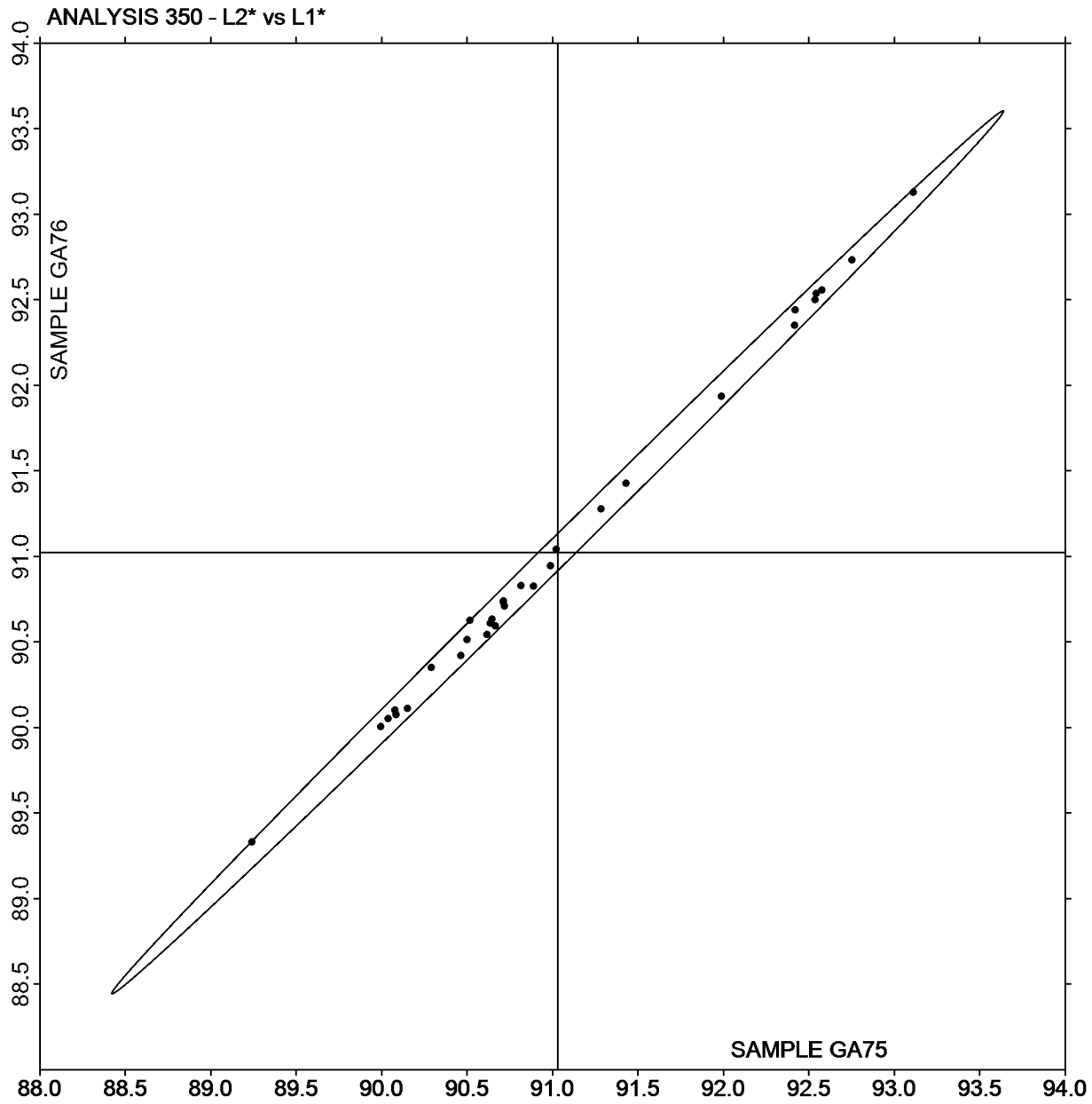
(XX) - Instrument make/model not specified by lab

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 GA76 v L values GA75

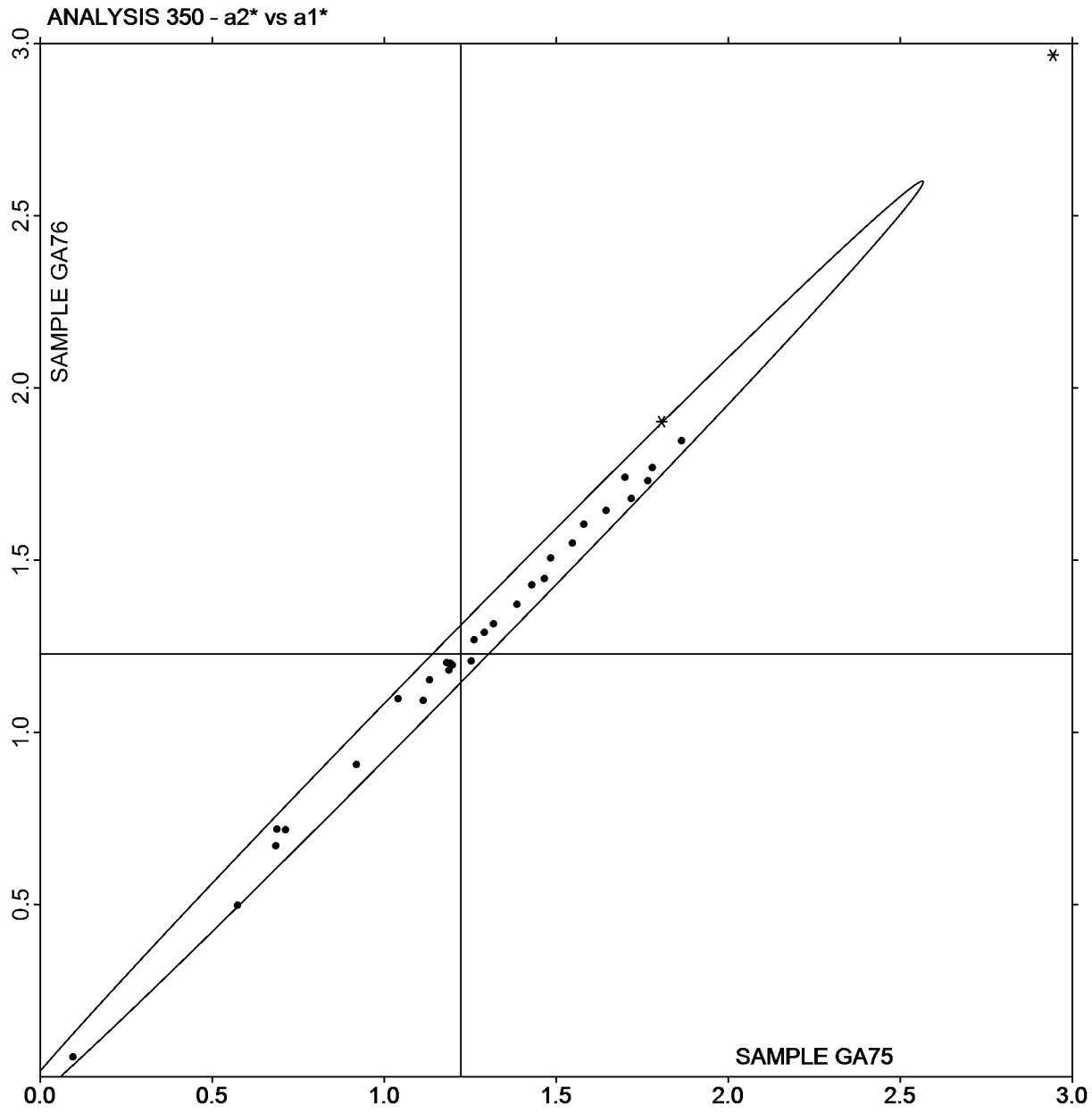


TAPPI-CTS Interlaboratory Testing Program

Analysis 350

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

Plot of a values GA76 v a values GA75

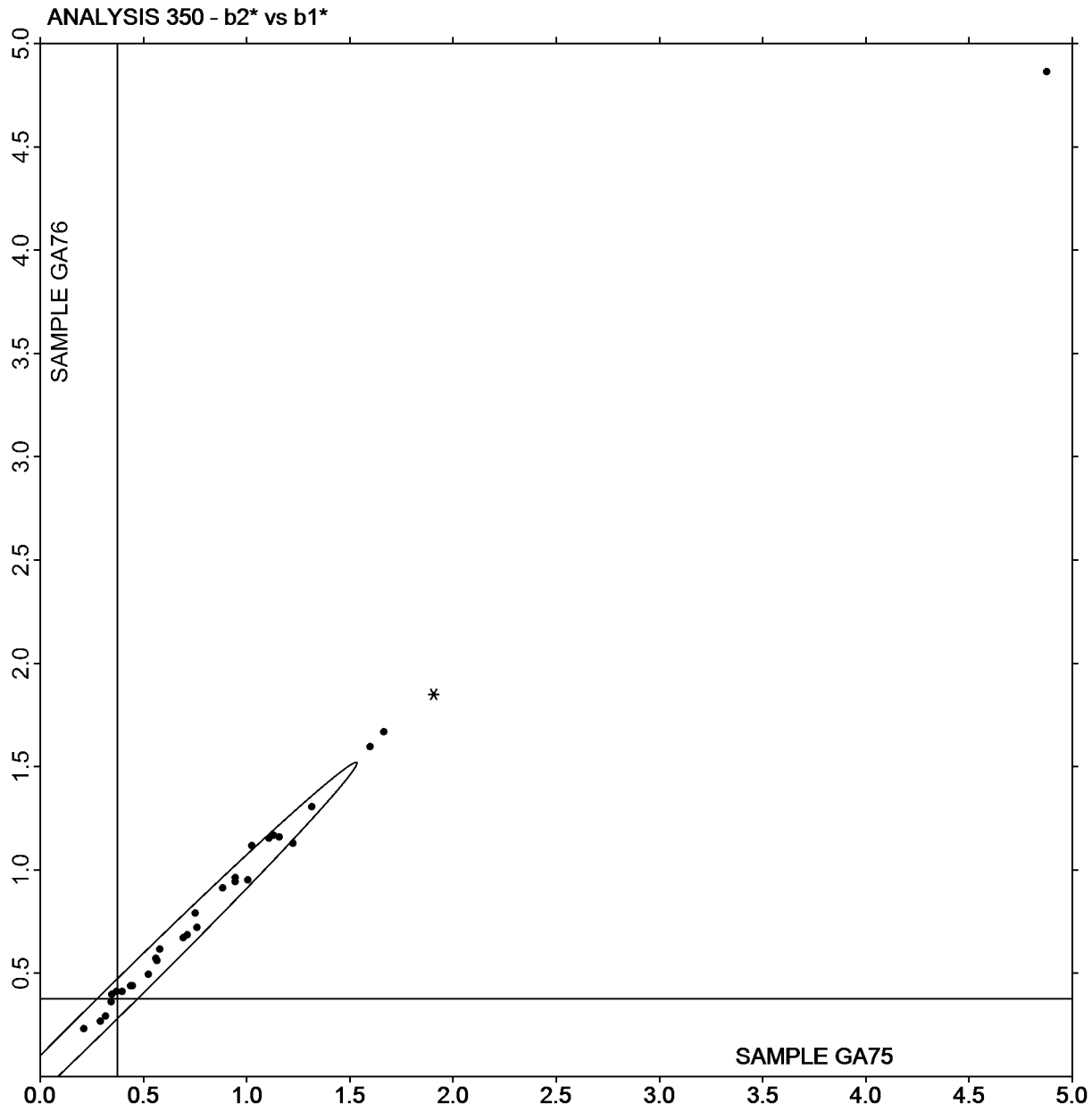


TAPPI-CTS Interlaboratory Testing Program

Analysis 350

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

Plot of b values GA76 v b values GA75



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	
2A9C6Z		GA75	92.92	0.91	-1.70	-0.02	-0.01	0.05	0.05	HT
		GA76	92.90	0.90	-1.65					
2Z7QN2		GA75	90.01	1.48	-0.30	-0.13	0.02	0.04	0.14	TM
		GA76	89.88	1.49	-0.25					
32EJG7		GA75	90.86	0.67	-0.21	-0.06	-0.01	0.04	0.07	TC
		GA76	90.80	0.65	-0.17					
3FBNYC		GA75	91.87	1.97	-5.03	0.01	0.01	0.01	0.02	HV
		GA76	91.87	1.99	-5.02					
4P2JLY		GA75	89.95	1.36	-0.17	-0.01	-0.01	0.00	0.01	TM
		GA76	89.95	1.36	-0.16					
8YTDZ7		GA75	93.08	0.95	-2.06	-0.02	0.01	0.00	0.02	HT
		GA76	93.06	0.96	-2.07					
92VNF7		GA75	91.21	0.45	1.07	-0.06	-0.01	0.05	0.08	MG
		GA76	91.15	0.45	1.13					
BLF8NU		GA75	92.94	1.23	-1.56	-0.01	-0.01	0.06	0.06	NF
		GA76	92.92	1.22	-1.50					
CDED32		GA75	92.78	1.30	-2.18	0.02	0.00	-0.04	0.04	EF
		GA76	92.80	1.30	-2.22					
GHDHLM		GA75	91.98	1.77	-4.88	-0.05	0.00	0.01	0.05	HV
		GA76	91.94	1.77	-4.87					
GKWJHU		GA75	92.60	1.40	-2.41	0.02	0.00	-0.01	0.02	LS
		GA76	92.62	1.40	-2.42					
JUZ46M		GA75	90.97	1.25	-1.83	-0.01	-0.08	-0.06	0.10	HE
		GA76	90.96	1.17	-1.89					
MC33TZ		GA75	90.57	0.73	0.28	-0.04	-0.01	-0.13	0.14	NF
		GA76	90.53	0.72	0.14					
NMYPZM		GA75	90.83	1.20	-0.54	0.01	-0.01	0.01	0.02	PP
		GA76	90.84	1.19	-0.53					
NVUUQ4		GA75	92.63	0.47	0.64	0.02	0.00	-0.02	0.03	LS
		GA76	92.66	0.47	0.63					
PGBFAP		GA75	92.64	0.99	-0.32	0.02	-0.02	0.06	0.07	XM
		GA76	92.66	0.97	-0.25					
PGU4VQ		GA75	90.95	1.32	-2.01	0.00	0.00	0.01	0.01	TC
		GA76	90.95	1.32	-2.00					

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
T73MVF		GA75	92.74	0.69	-0.22	0.03	-0.01	0.01	0.03	XX
		GA76	92.77	0.68	-0.21					
UTTHWX		GA75	90.99	1.19	-1.45	-0.05	0.01	0.00	0.05	XX
		GA76	90.94	1.19	-1.45					
VBMNQA		GA75	92.52	0.52	0.39	0.00	-0.05	0.15	0.16	EH
		GA76	92.52	0.47	0.54					
X7KLF7		GA75	92.57	0.13	1.94	-0.01	0.01	-0.05	0.05	NG
		GA76	92.56	0.13	1.89					
XKJKEV		GA75	92.66	0.45	0.52	-0.06	-0.01	0.06	0.08	EH
		GA76	92.60	0.44	0.58					
XZD6X6		GA75	90.81	1.13	-1.82	-0.09	-0.01	0.00	0.09	HE
		GA76	90.71	1.12	-1.82					

Summary Statistics

Grand Means								
GA75	91.787	1.014	-1.037	-0.021	-0.008	0.011	0.061	
GA76	91.766	1.009	-1.025					
Stnd Dev Btwn Labs								
GA75	1.029	0.466	1.703	0.041	0.021	0.055	0.043	
GA76	1.051	0.472	1.708					

Statistics based on 23 of 23 reporting participants

Instrument Code List as Reported by the Labs

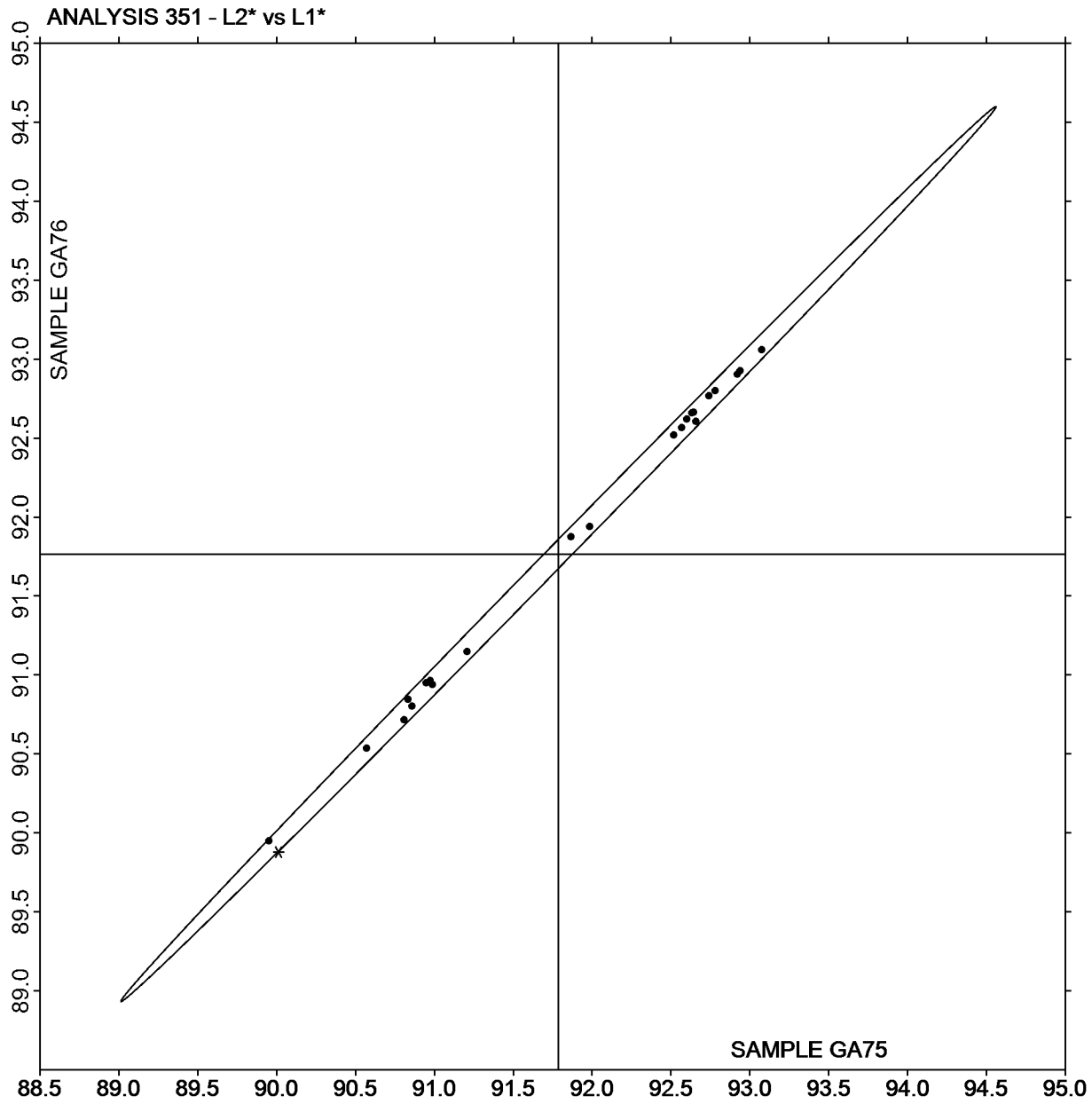
(EF) - Datacolor Elrepho 3000
(EH) - Datacolor Elrepho SF450
(HE) - Hunter LabScan
(HT) - Hunter UltraScan Vis
(HV) - Hunter Ultrascan XE
(LS) - L & W Elrepho SE 070
(MG) - Macbeth 1500/PLUS - 2025+ Color Eye
(NF) - Minolta CM-3600d Spectrophotometer
(NG) - Minolta CM-3700d Spectrophotometer
(PP) - Technidyne Profile/Plus
(TC) - Technidyne Color Touch Series
(TM) - Technidyne Brightimeter Model Micro S-5
(XM) - X-Rite CA-22
(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 GA76 v L values GA75

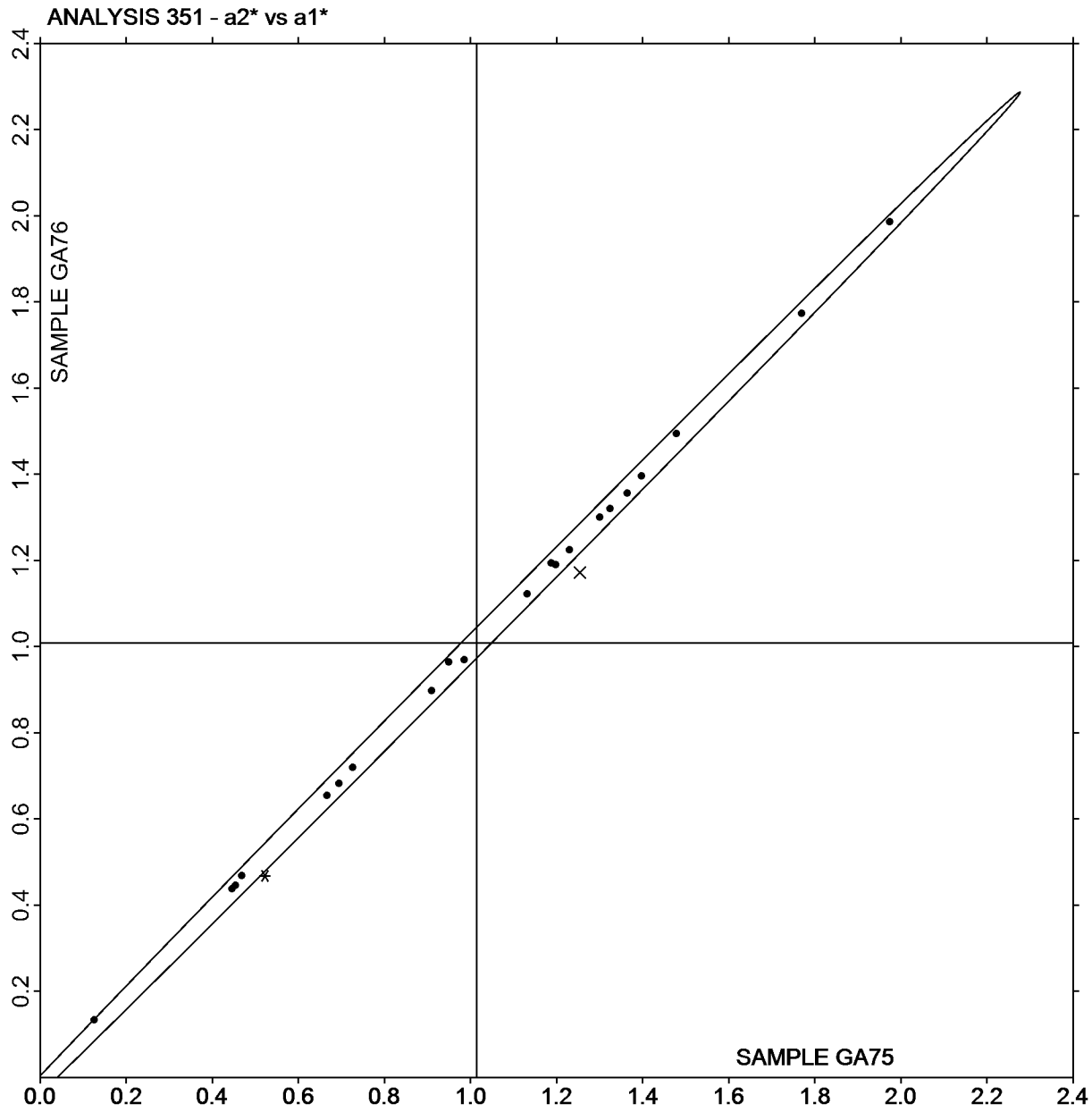


TAPPI-CTS Interlaboratory Testing Program

Analysis 351

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

Plot of a values GA76 v a values GA75

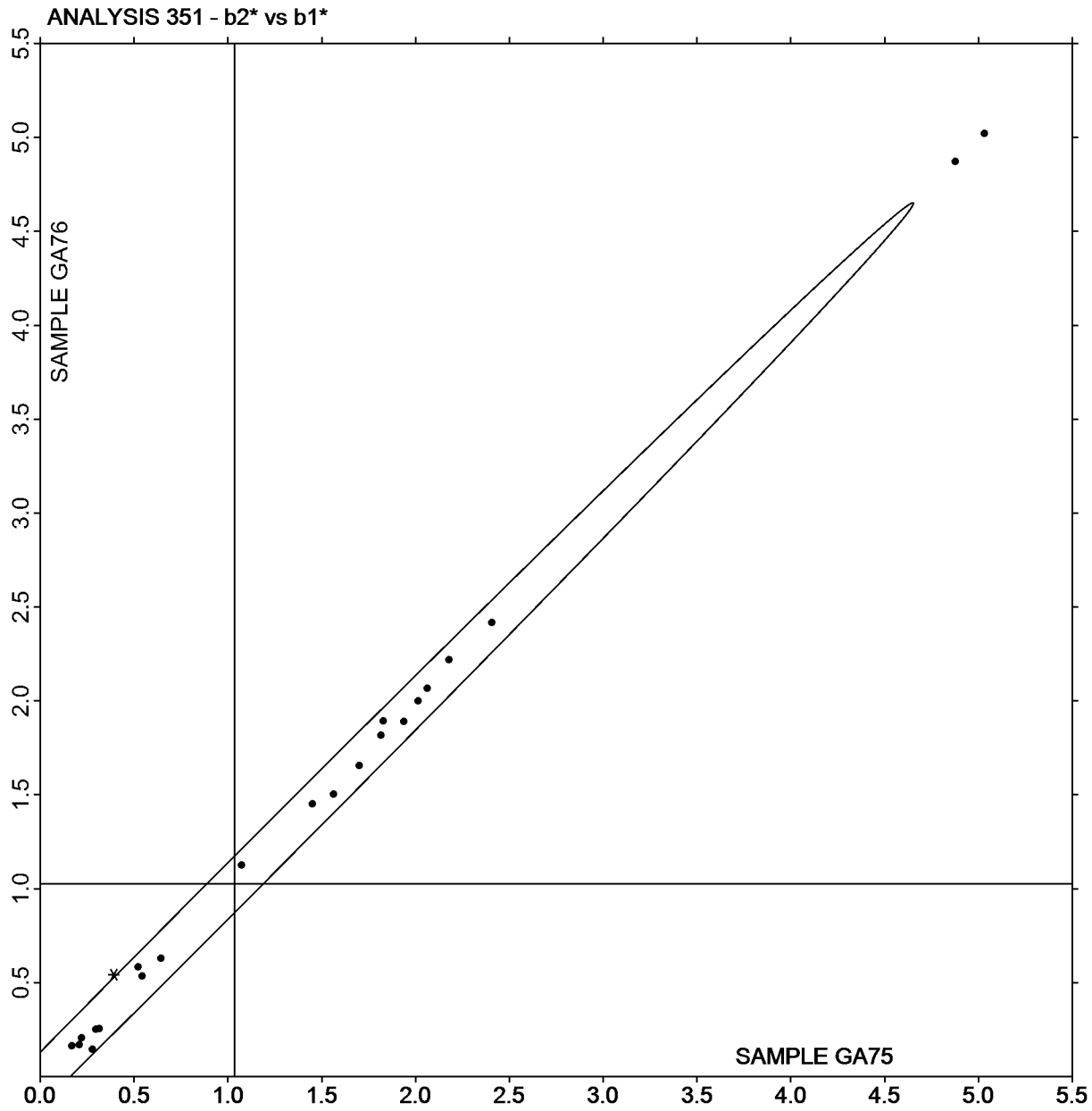


TAPPI-CTS Interlaboratory Testing Program

Analysis 351

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

Plot of b values GA76 v b values GA75



Paper & Paperboard Interlaboratory Testing Program

Analysis 360

Thickness (Caliper), Printing papers

WebCode	Data Flag	Sample GV75 Lab Mean	Sample GV75 Diff from Grand Mean	Sample GV75 CPV	Sample GV76 Lab Mean	Sample GV76 Diff from Grand Mean	Sample GV76 CPV	Instr Code
26DML8		3.840	-0.061	-0.94	3.819	-0.035	-0.53	TA
29FE2Z		3.780	-0.121	-1.85	3.740	-0.114	-1.71	TM
2A9C6Z		3.926	0.025	0.38	3.950	0.096	1.43	EM
2TMMED		4.055	0.154	2.35	3.987	0.133	1.99	LW
32EJG7		3.867	-0.034	-0.52	3.787	-0.067	-1.01	TA
3FBNYC		3.923	0.022	0.33	3.851	-0.003	-0.05	TA
44JAL2		3.911	0.010	0.15	3.924	0.070	1.04	EM
4BCUEF		3.990	0.089	1.35	3.970	0.116	1.73	TM
4P2JLY	*	4.012	0.110	1.68	3.890	0.035	0.53	TM
6HBQM4		3.864	-0.038	-0.58	3.854	-0.001	-0.01	EM
6QMWBU		3.944	0.043	0.66	3.879	0.025	0.37	LW
722BTM		3.863	-0.038	-0.59	3.814	-0.040	-0.61	TA
744A4F		3.929	0.028	0.42	3.862	0.008	0.12	LW
77GU2W		3.824	-0.077	-1.18	3.829	-0.025	-0.38	LA
88LQXK		3.892	-0.009	-0.14	3.850	-0.004	-0.07	LW
8H2HLU		3.790	-0.111	-1.70	3.780	-0.074	-1.11	TM
8QJ3TZ		3.947	0.046	0.70	3.876	0.022	0.32	EM
8YTDZ7		3.956	0.055	0.83	3.942	0.088	1.31	EM
92VNF7		4.001	0.100	1.52	3.990	0.136	2.03	VM
94GKVJ		3.892	-0.009	-0.14	3.873	0.019	0.28	XX
9BLCB9		4.002	0.101	1.54	3.971	0.116	1.75	LW
9D6BHC		3.924	0.023	0.35	3.899	0.045	0.67	XX
9LKXQF		3.978	0.076	1.16	3.937	0.083	1.24	LW
AJQNYQ		3.827	-0.075	-1.14	3.780	-0.075	-1.12	TM
B8EHL3		3.912	0.011	0.16	3.859	0.005	0.07	XX
BLF8NU		3.898	-0.003	-0.05	3.858	0.004	0.05	EM
CDDD6M		4.018	0.117	1.78	3.962	0.108	1.61	EM
CGTW2A		3.890	-0.011	-0.17	3.860	0.006	0.08	TM
CYEHJF		3.980	0.079	1.20	3.913	0.059	0.88	FR
D7TNVC		3.937	0.036	0.54	3.937	0.083	1.24	MT
DNRUBY		3.868	-0.033	-0.51	3.840	-0.014	-0.22	LW
DQ2YNM		3.893	-0.008	-0.13	3.886	0.032	0.47	EM
E7PJVU		3.912	0.011	0.16	3.837	-0.017	-0.26	TM
EQVWRM		3.854	-0.047	-0.72	3.833	-0.022	-0.33	TM
EVMERK		3.916	0.015	0.22	3.849	-0.005	-0.08	EM
FWFCVK		3.974	0.073	1.11	3.867	0.013	0.19	TM
GKF6D7		3.782	-0.119	-1.82	3.720	-0.135	-2.02	TM
H9KE8T		3.870	-0.031	-0.48	3.791	-0.063	-0.94	LW
HEBLRL		3.927	0.026	0.40	3.890	0.036	0.54	LW
HTQYQY		3.872	-0.030	-0.45	3.818	-0.036	-0.54	TA
J4ME73		3.957	0.055	0.84	3.870	0.016	0.24	MS
JUZ46M		3.955	0.054	0.82	3.912	0.058	0.86	LW
JY8U8T		3.959	0.058	0.88	3.924	0.070	1.04	TA

Paper & Paperboard Interlaboratory Testing Program

Analysis 360

Thickness (Caliper), Printing papers

WebCode	Data Flag	Sample GV75 Lab Mean	Sample GV75 Diff from Grand Mean	Sample GV75 CPV	Sample GV76 Lab Mean	Sample GV76 Diff from Grand Mean	Sample GV76 CPV	Instr Code
KZFF8E		3.957	0.056	0.85	3.897	0.043	0.64	EM
LXA2PF		3.848	-0.053	-0.81	3.748	-0.106	-1.59	LA
MDD844		3.918	0.016	0.25	3.865	0.011	0.16	LW
N4RDER		3.926	0.025	0.38	3.805	-0.050	-0.75	TM
NMYPZM		3.799	-0.102	-1.56	3.772	-0.083	-1.24	PP
NNFZYF		3.789	-0.112	-1.71	3.700	-0.154	-2.31	TM
NT9YBP		3.882	-0.019	-0.30	3.807	-0.047	-0.71	XX
NT9YDB		3.844	-0.057	-0.88	3.776	-0.078	-1.17	TM
NYEKFM		3.877	-0.024	-0.37	3.821	-0.033	-0.50	EM
PCWRRD		3.846	-0.056	-0.85	3.801	-0.053	-0.80	TM
PGBFAP		3.929	0.028	0.42	3.902	0.047	0.71	LW
PGTACK	X	3.652	-0.249	-3.80	3.616	-0.238	-3.57	TA
PGU4VQ		3.880	-0.021	-0.33	3.852	-0.002	-0.04	LW
QMEJ29		3.832	-0.070	-1.06	3.789	-0.065	-0.98	EM
QP36LJ		4.050	0.149	2.27	3.980	0.126	1.88	XX
R7L9RC		3.915	0.014	0.21	3.845	-0.009	-0.14	LW
R7LKZZ		3.823	-0.079	-1.20	3.756	-0.098	-1.48	TA
R8E9JV		3.947	0.046	0.70	3.899	0.045	0.67	EM
RBW9ZW		4.019	0.118	1.80	3.975	0.120	1.80	LW
RCBX49		3.840	-0.061	-0.94	3.810	-0.044	-0.66	TM
REELPQ		3.824	-0.077	-1.18	3.780	-0.074	-1.11	TM
RXCTXW		3.760	-0.141	-2.16	3.690	-0.164	-2.46	TM
TYJGY9		3.929	0.028	0.42	3.906	0.052	0.77	EM
U4MU8Q		3.831	-0.071	-1.08	3.835	-0.020	-0.30	LW
U63DU9		3.887	-0.014	-0.22	3.809	-0.045	-0.68	TA
UGUYZ4		3.862	-0.039	-0.60	3.843	-0.012	-0.18	PP
V86NAA		3.946	0.045	0.68	3.854	0.000	-0.01	XX
VZNTTE		3.924	0.023	0.35	3.894	0.040	0.60	LW
WE67KE		3.793	-0.108	-1.65	3.752	-0.102	-1.53	TA
WWL8G3		3.933	0.032	0.48	3.846	-0.008	-0.12	LW
X4ZFH4		3.840	-0.061	-0.94	3.830	-0.024	-0.37	LW
X7KLF7		3.954	0.053	0.80	3.862	0.008	0.11	EM
XBTUWA		3.909	0.008	0.12	3.856	0.002	0.02	VM
XZD6X6		3.923	0.021	0.33	3.866	0.011	0.17	TM
XZEZGB		3.854	-0.047	-0.72	3.847	-0.007	-0.11	LW
YGY4M3		3.862	-0.039	-0.60	3.851	-0.003	-0.05	PP
ZEQZLZ		3.946	0.045	0.68	3.895	0.041	0.61	PP

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

Summary Statistics

	Sample GV75	Sample GV76
Grand Means	3.9014 mils	3.8544 mils
SD Btwn Labs	0.0656 mils	0.0667 mils

Statistics based on 79 of 80 reporting participants

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

Analysis Notes:

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

RCBX49 - Data appear to be reported as mils, not inches as indicated on datasheet. Unit changed by CTS.

Instrument Code List as Reported by the Labs

(EM) - Emveco
(FR) - Frank Instruments
(LA) - L & W Autoline
(LW) - L & W
(MS) - Messmer
(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

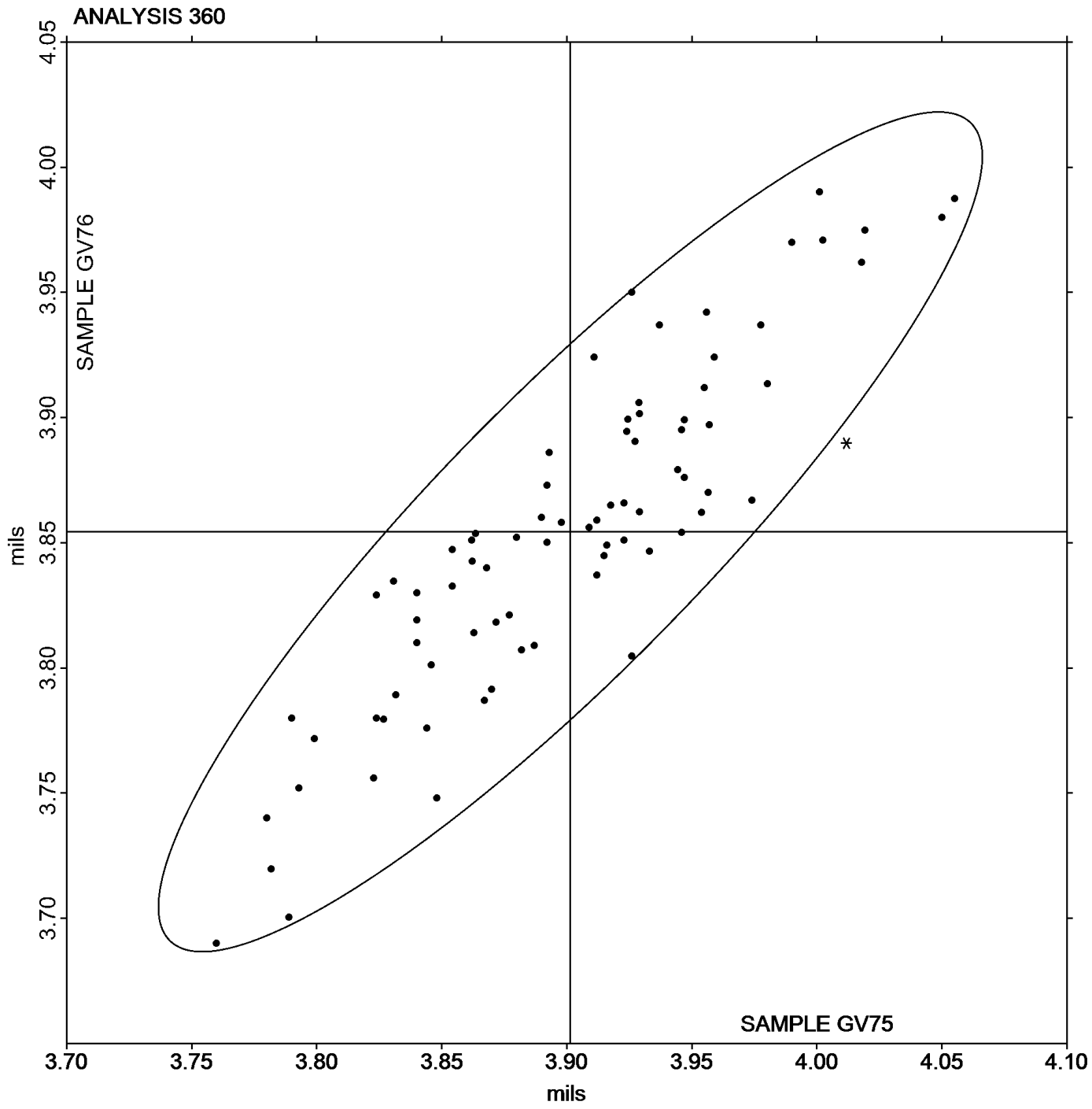
Paper & Paperboard Interlaboratory Testing Program

Analysis 360

Thickness (Caliper), Printing papers

Grand Mean Sample **GV75** = 3.9014 mils

Grand Mean Sample **GV76** = 3.8544 mils



Paper & Paperboard Interlaboratory Testing Program

Analysis 361

Thickness (Caliper), Packaging papers

WebCode	Data Flag	Sample GY75 Lab Mean	Sample GY75 Diff from Grand Mean	Sample GY75 CPV	Sample GY76 Lab Mean	Sample GY76 Diff from Grand Mean	Sample GY76 CPV	Instr Code
26DML8		7.613	-0.040	-0.22	8.573	-0.008	-0.05	TA
2HM4VX		7.701	0.048	0.26	8.639	0.058	0.34	EM
3V3NNQ		7.600	-0.053	-0.29	8.720	0.139	0.82	TA
3Z3P27		7.263	-0.390	-2.16	8.148	-0.433	-2.56	EM
4GLZ3Y		7.808	0.155	0.86	8.761	0.180	1.06	EM
4HFNJA		7.724	0.071	0.39	8.705	0.124	0.73	XX
6QMWBU		7.819	0.166	0.92	8.655	0.074	0.44	LW
8H2HLU		7.620	-0.033	-0.18	8.560	-0.021	-0.12	TM
8H7ZLE		7.817	0.164	0.91	8.653	0.072	0.43	TM
9APUBT		7.540	-0.113	-0.63	8.496	-0.085	-0.50	TM
AMME3G		7.542	-0.111	-0.61	8.378	-0.203	-1.20	TM
CX4RGQ		7.898	0.245	1.35	8.759	0.178	1.05	EM
DJHKWB		7.450	-0.203	-1.12	8.430	-0.151	-0.89	LW
GHDHLM		7.668	0.015	0.08	8.670	0.089	0.53	EM
GKWJHU		7.945	0.292	1.61	8.791	0.210	1.24	TM
KHH92T		7.941	0.288	1.59	8.736	0.155	0.92	XX
NT9YDB		7.734	0.081	0.45	8.570	-0.011	-0.06	TM
PGTACK		7.410	-0.243	-1.34	8.369	-0.212	-1.25	TA
PLQTEJ		7.489	-0.164	-0.91	8.324	-0.257	-1.52	EM
RBGZZ9		7.605	-0.048	-0.27	8.569	-0.012	-0.07	EM
RR3U2X		7.662	0.009	0.05	8.584	0.003	0.02	EM
RXCTXW		7.500	-0.153	-0.85	8.510	-0.071	-0.42	TM
T6PF8C		7.750	0.097	0.54	8.560	-0.021	-0.12	TM
U2ZA48		7.565	-0.088	-0.49	8.565	-0.016	-0.09	TA
VBMNQA		7.850	0.197	1.09	8.790	0.209	1.24	EM
VL2MD7		7.641	-0.012	-0.07	8.536	-0.045	-0.27	EM
VNCKT9		7.633	-0.020	-0.11	8.677	0.096	0.57	TM
VP799H		8.020	0.367	2.03	8.835	0.254	1.50	LW
VZNTTE	*	7.579	-0.074	-0.41	8.744	0.163	0.96	LW
W8FWPM		7.309	-0.344	-1.90	8.205	-0.376	-2.22	TM
WE67KE		7.552	-0.101	-0.56	8.498	-0.083	-0.49	XX

Summary Statistics

	Sample GY75	Sample GY76
Grand Means	7.6532 mils	8.5810 mils
SD Btwn Labs	0.1809 mils	0.1693 mils

Statistics based on 31 of 31 reporting participants

Notes for Analysis 361

No Data Flags assigned for this analysis.

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

Analysis Notes:

AMME3G - Data appear to be reported as mils, not inches as indicated on datasheet and data off by a factor of 100. Both changed by CTS.

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

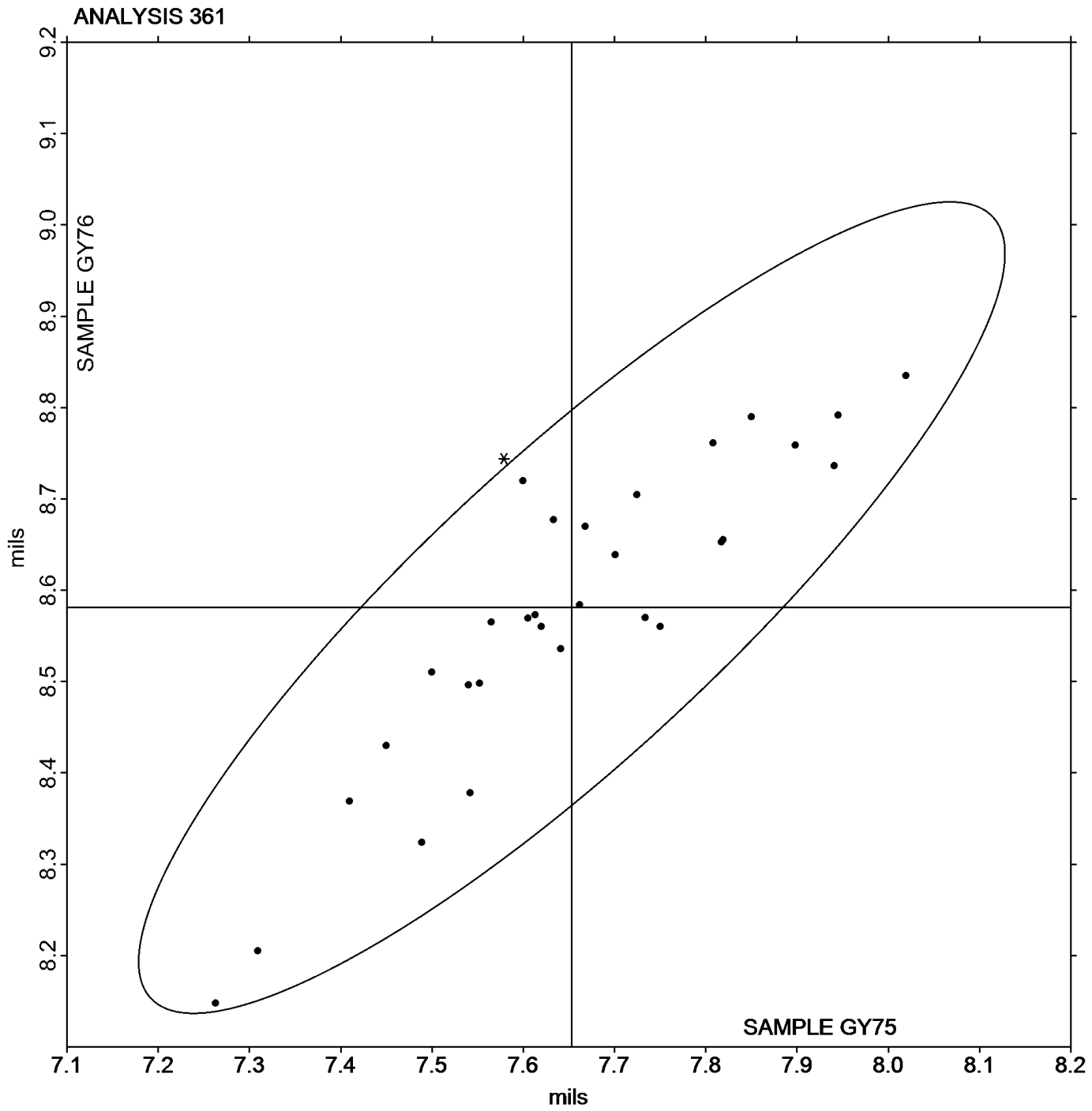
Paper & Paperboard Interlaboratory Testing Program

Analysis 361

Thickness (Caliper), Packaging papers

Grand Mean Sample **GY75** = 7.6532 mils

Grand Mean Sample **GY76** = 8.5810 mils



Paper & Paperboard Interlaboratory Testing Program

Analysis 364

Coefficient of Static Friction - Horizontal Plane Method - Printing Papers

WebCode	Data Flag	Sample GD75 Lab Mean	Sample GD75 Diff from Grand Mean	Sample GD75 CPV	Sample GD76 Lab Mean	Sample GD76 Diff from Grand Mean	Sample GD76 CPV	Instr Code
6GZP26		0.4780	-0.1019	-1.50	0.5876	0.0154	0.34	IT
8QJ3TZ		0.5750	-0.0049	-0.07	0.6332	0.0610	1.34	TM
DQ2YNM		0.5860	0.0061	0.09	0.5760	0.0038	0.08	TL
LXA2PF		0.5832	0.0033	0.05	0.5672	-0.0050	-0.11	TA
NMYPZM		0.5050	-0.0749	-1.10	0.4946	-0.0776	-1.70	NS
RCBX49		0.6648	0.0849	1.25	0.6004	0.0282	0.62	XX
RR3U2X		0.6620	0.0821	1.21	0.6160	0.0438	0.96	IX
TYJGY9		0.6000	0.0201	0.30	0.5680	-0.0042	-0.09	XX
X7KLF7		0.6468	0.0669	0.98	0.5832	0.0110	0.24	TM
XMBCQ3		0.4980	-0.0819	-1.20	0.4956	-0.0766	-1.68	TM

Summary Statistics

	Sample GD75	Sample GD76
Grand Means	0.57988 COF	0.57218 COF
SD Btwn Labs	0.06799 COF	0.04563 COF

Statistics based on 10 of 10 reporting participants

Notes for Analysis 364

No Data Flags assigned for this analysis.

Instrument Code List as Reported by the Labs

(IT) - IMASS SP-2100

(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

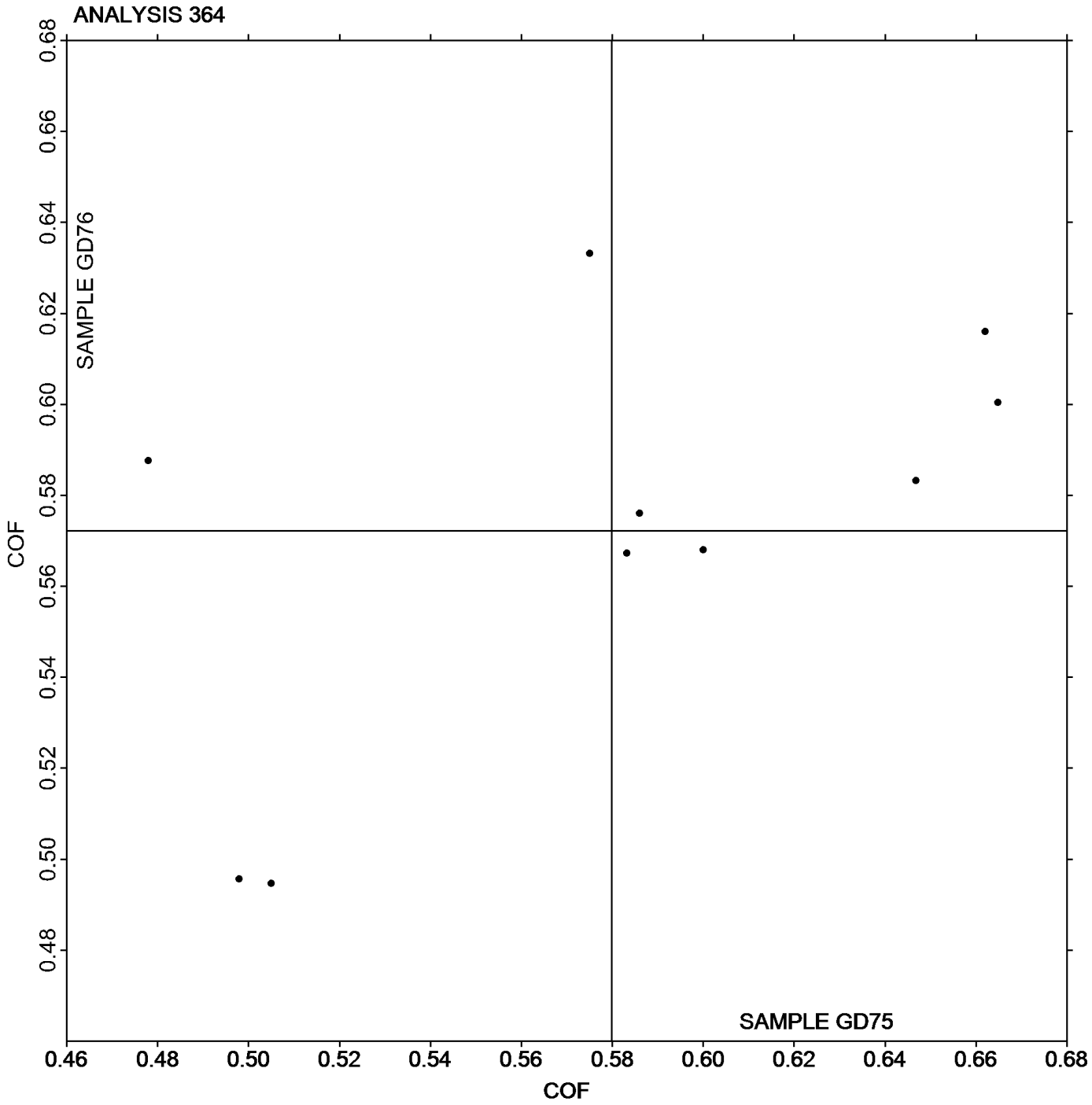
Paper & Paperboard Interlaboratory Testing Program

Analysis 364

Coefficient of Static Friction - Horizontal Plane Method - Printing Papers

Grand Mean Sample **GD75** = 0.57988 COF

Grand Mean Sample **GD76** = 0.57218 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 GD75 Lab Mean	Sample GD75 Diff from Grand Mean	Sample GD75 CPV	Sample GD76 Lab Mean	Sample GD76 Diff from Grand Mean	Sample GD76 CPV	Instr Code
6GZP26		0.3668	-0.1284	-1.67	0.4504	-0.0384	-0.63	IR
6HBQM4		0.4090	-0.0862	-1.12	0.4294	-0.0594	-0.98	TA
DQ2YNM		0.4680	-0.0272	-0.35	0.4580	-0.0308	-0.51	TL
LXA2PF		0.5196	0.0244	0.32	0.5068	0.0180	0.30	TA
NMYPZM		0.4346	-0.0606	-0.79	0.4130	-0.0758	-1.25	NS
PGU4VQ		0.5030	0.0078	0.10	0.5146	0.0258	0.43	TA
QJTYUJ		0.5260	0.0308	0.40	0.4796	-0.0092	-0.15	TM
RCBX49		0.5860	0.0908	1.18	0.5774	0.0886	1.46	XX
RR3U2X		0.5640	0.0688	0.89	0.5520	0.0632	1.04	IX
VEQJBD		0.5372	0.0420	0.55	0.5090	0.0202	0.33	TA
X7KLF7		0.6132	0.1180	1.53	0.5756	0.0868	1.43	TM
XMBCQ3		0.4152	-0.0800	-1.04	0.4002	-0.0886	-1.46	TM

Summary Statistics

	Sample GD75	Sample GD76
Grand Means	0.49522 COF	0.48883 COF
SD Btwn Labs	0.07687 COF	0.06061 COF

Statistics based on 12 of 12 reporting participants

Notes for Analysis 365

No Data Flags assigned for this analysis.

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

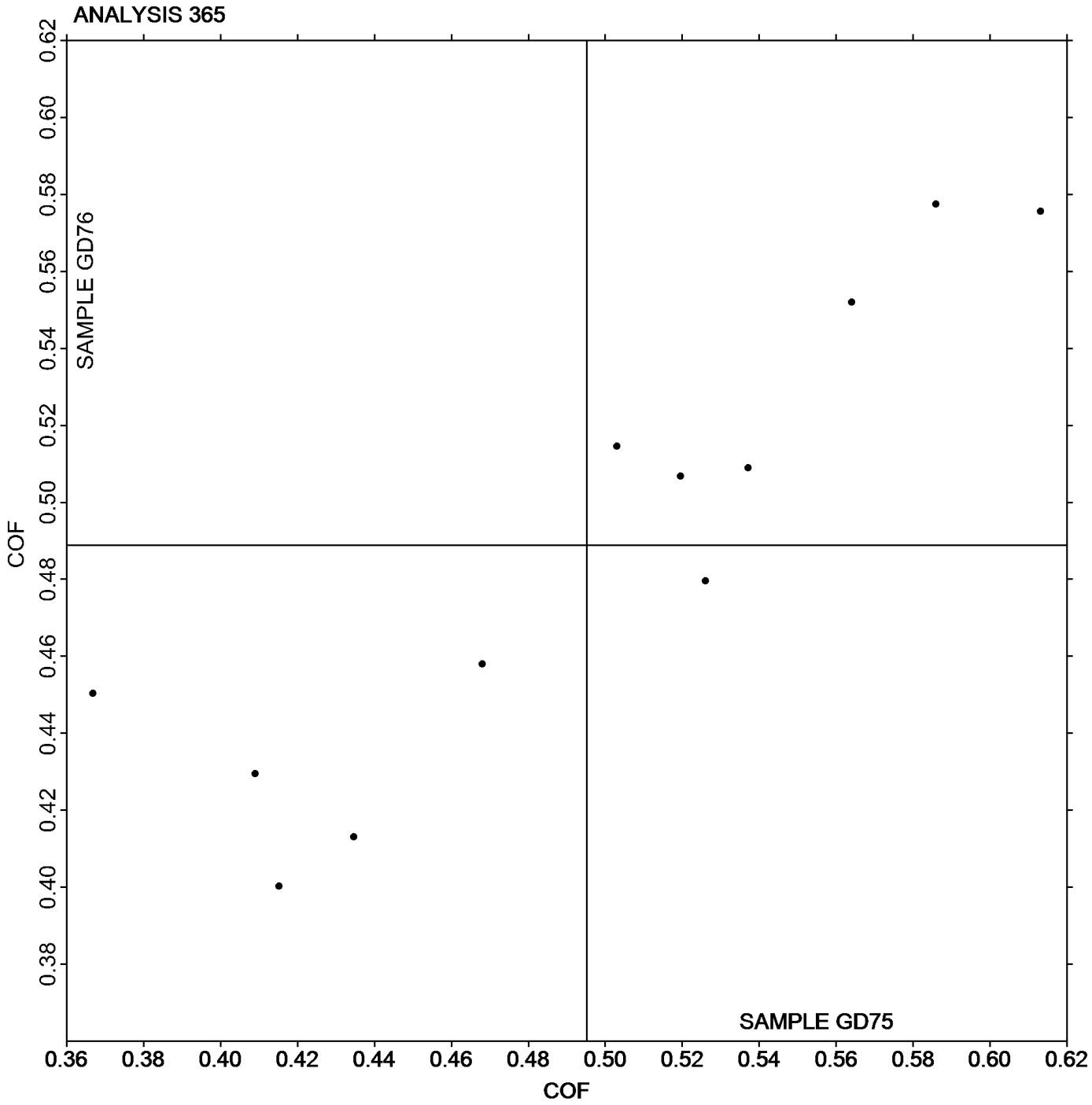
Paper & Paperboard Interlaboratory Testing Program

Analysis 365

Coefficient of Kinetic Friction - Horizontal Plane Method - Printing Papers

Grand Mean Sample **GD75** = 0.49522 COF

Grand Mean Sample **GD76** = 0.48883 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 GE75 Lab Mean	Sample GE75 Diff from Grand Mean	Sample GE75 CPV	Sample GE76 Lab Mean	Sample GE76 Diff from Grand Mean	Sample GE76 CPV	Instr Code
32EJG7		22.40	1.16	1.35	32.28	1.25	0.89	HG
3FBNYC		21.09	-0.14	-0.17	29.86	-1.18	-0.84	PP
4BCUEF		21.97	0.73	0.85	30.28	-0.75	-0.54	TN
4HFNJA		21.20	-0.04	-0.04	30.27	-0.76	-0.54	LW
722BTM		21.53	0.29	0.34	31.13	0.10	0.07	XX
744A4F		22.07	0.83	0.96	30.71	-0.32	-0.23	LP
77GU2W		21.39	0.15	0.18	31.96	0.93	0.66	LA
88LQXK		20.00	-1.24	-1.44	29.12	-1.91	-1.36	LP
8QJ3TZ		21.06	-0.18	-0.20	31.10	0.07	0.05	PP
94GKVJ		22.37	1.13	1.31	31.29	0.25	0.18	XX
96DNX8		20.80	-0.44	-0.51	32.30	1.27	0.90	XX
9LKXQF		20.36	-0.88	-1.02	29.94	-1.09	-0.78	LP
AJQNYQ		21.00	-0.24	-0.28	29.77	-1.26	-0.90	RE
CDDD6M		21.04	-0.20	-0.23	29.80	-1.23	-0.88	XX
CDED32		21.54	0.30	0.35	31.69	0.66	0.47	LP
CGTW2A		21.94	0.70	0.81	33.23	2.20	1.57	TN
DQ2YNM		22.76	1.52	1.76	32.89	1.86	1.32	HG
EQVWRM	X	10.26	-10.98	-12.73	15.30	-15.73	-11.22	LW
EVAMY3		21.10	-0.14	-0.16	31.60	0.57	0.40	TL
JY8U8T		20.25	-0.99	-1.15	31.31	0.28	0.20	HG
KHH92T		19.90	-1.34	-1.55	31.30	0.27	0.19	XX
KZFF8E		21.40	0.16	0.19	32.40	1.37	0.97	WG
MDD844		19.63	-1.61	-1.87	28.68	-2.35	-1.68	LP
NMYPZM		21.33	0.09	0.11	30.89	-0.14	-0.10	PP
NNFZYF		19.97	-1.27	-1.47	29.04	-1.99	-1.42	LP
NT9YDB		20.41	-0.83	-0.96	30.39	-0.64	-0.46	HG
NYEKFM		21.37	0.13	0.15	32.79	1.76	1.25	HG
PGBFAP		20.60	-0.64	-0.74	28.40	-2.63	-1.88	LW
PLQTEJ		20.98	-0.26	-0.30	30.01	-1.02	-0.73	GG
QP36LJ		21.84	0.60	0.70	31.31	0.28	0.20	XX
RBGZZ9		22.55	1.31	1.52	33.64	2.61	1.86	PP
RBW9ZW		20.87	-0.37	-0.43	30.83	-0.20	-0.15	LP
RCBX49	X	17.00	-4.24	-4.92	25.20	-5.83	-4.16	GS
RR3U2X		20.73	-0.51	-0.59	29.88	-1.15	-0.82	LW
RY36HN		22.76	1.52	1.76	32.76	1.73	1.23	GA
T4F6FF		20.77	-0.47	-0.54	30.39	-0.64	-0.46	XX
T6PF8C		22.75	1.51	1.75	32.83	1.80	1.28	TL
VP799H		21.05	-0.19	-0.22	29.48	-1.55	-1.11	LW
VZNTTE		22.00	0.76	0.88	32.30	1.27	0.90	TL
WWL8G3		20.47	-0.77	-0.89	31.03	0.00	0.00	LW
X42A2A		19.65	-1.59	-1.84	27.94	-3.09	-2.21	LP
XBTUWA	X	12.23	-9.01	-10.45	16.47	-14.57	-10.38	VM
XN3A3F		20.96	-0.28	-0.32	32.99	1.96	1.39	WG

Paper & Paperboard Interlaboratory Testing Program

Analysis 370

Air Resistance - Gurley Oil Type

WebCode	Data Flag	Sample GE75 Lab Mean	Sample GE75 Diff from Grand Mean	Sample GE75 CPV	Sample GE76 Lab Mean	Sample GE76 Diff from Grand Mean	Sample GE76 CPV	Instr Code
YGY4M3		22.45	1.21	1.40	31.35	0.31	0.22	PP
ZEQZLZ		21.70	0.46	0.54	32.28	1.25	0.89	HG

Summary Statistics

	Sample GE75	Sample GE76
Grand Means	21.238 sec/100 cc	31.034 sec/100 cc
SD Btwn Labs	0.862 sec/100 cc	1.403 sec/100 cc

Statistics based on 42 of 45 reporting participants

Comments on assigned Data Flags for Test #370

EQVWRM (X) - Extreme data.

RCBX49 (X) - Systematic error (data for both samples are low).

XBTUWA (X) - Extreme data.

Instrument Code List as Reported by the Labs

(GA) - Gurley Precision #4340 Automatic Densometer

(GG) - Gurley Precision Model #4320

(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

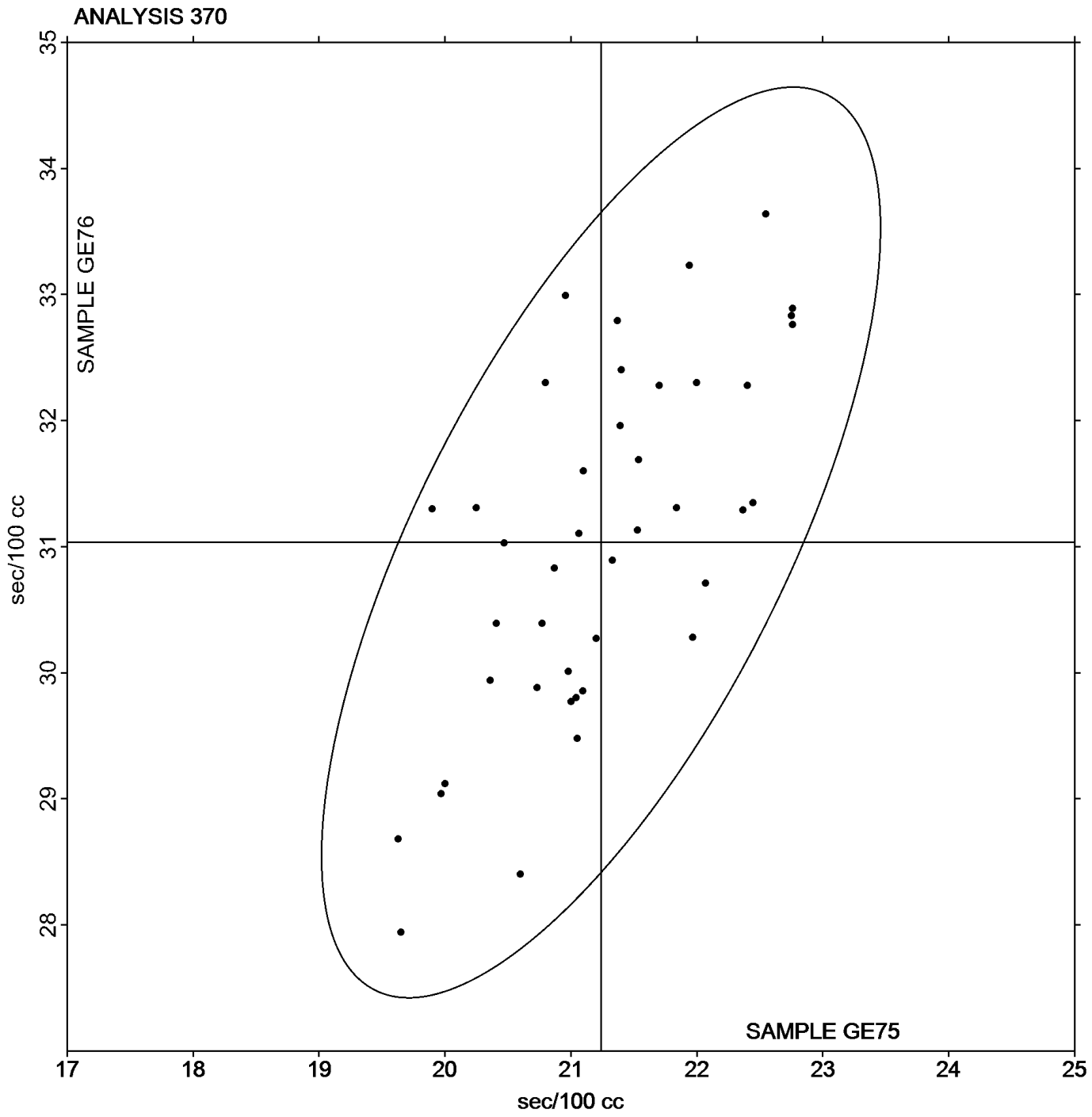
Paper & Paperboard Interlaboratory Testing Program

Analysis 370

Air Resistance - Gurley Oil Type

Grand Mean Sample **GE75** = 21.238 sec/100 cc

Grand Mean Sample **GE76** = 31.034 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 GE75 Lab Mean	Sample GE75 Diff from Grand Mean	Sample GE75 CPV	Sample GE76 Lab Mean	Sample GE76 Diff from Grand Mean	Sample GE76 CPV	Instr Code
2Z7PLF		120.5	-6.7	-1.15	87.77	-5.67	-1.20	LP
32EJG7		126.5	-0.7	-0.12	93.30	-0.14	-0.03	TT
44JAL2		140.0	12.8	2.21	97.43	4.00	0.84	SH
6WBFVX	X	89.9	-37.3	-6.41	61.32	-32.12	-6.79	XX
8XGGU2		125.3	-1.9	-0.32	89.90	-3.54	-0.75	HM
92VNF7	X	146.4	19.2	3.30	111.20	17.76	3.75	VM
BJMLLQ		123.7	-3.5	-0.60	90.20	-3.24	-0.68	LP
DXV87T		128.2	1.0	0.18	92.37	-1.07	-0.23	PP
EVMERK		131.3	4.1	0.71	95.86	2.42	0.51	TA
FWFCVK		131.5	4.3	0.74	98.50	5.06	1.07	TT
FXR4UT		118.3	-8.9	-1.53	85.50	-7.94	-1.68	GA
JUZ46M		130.3	3.1	0.54	93.20	-0.24	-0.05	HM
JY8U8T		122.9	-4.3	-0.74	89.10	-4.34	-0.92	HM
KXCH2T	X	168.3	41.1	7.07	126.20	32.76	6.92	VM
LXA2PF		126.4	-0.8	-0.13	91.20	-2.24	-0.47	LA
NT9YDB		133.5	6.3	1.09	101.25	7.81	1.65	HG
PGTACK		129.6	2.4	0.42	95.56	2.12	0.45	XX
PGU4VQ		116.2	-11.0	-1.89	91.30	-2.14	-0.45	SH
QP36LJ		123.3	-3.9	-0.67	89.73	-3.71	-0.78	XX
RBGZZ9		124.0	-3.2	-0.55	88.10	-5.34	-1.13	SH
RCBX49	*	123.4	-3.8	-0.65	104.70	11.26	2.38	SH
VYT6C6		130.7	3.5	0.60	94.60	1.16	0.25	PP
WE67KE		136.5	9.3	1.60	95.91	2.47	0.52	HG
X4ZFH4		128.7	1.5	0.26	96.70	3.26	0.69	LP

Summary Statistics

	Sample GE75	Sample GE76
Grand Means	127.18 Sheffield Units	93.437 Sheffield Units
SD Btwn Labs	5.82 Sheffield Units	4.732 Sheffield Units

Statistics based on 21 of 24 reporting participants

Comments on assigned Data Flags for Test #372

6WBFVX (X) - Extreme data.

92VNF7 (X) - Systematic error (data for both samples are high).

KXCH2T (X) - Extreme data.

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

Instrument Code List as Reported by the Labs

(GA) - Gurley Precision #4340 Automatic Densometer

(HG) - Technidyne - Hagerty Model #1

(HM) - Technidyne - Hagerty Model #538

(LA) - L & W Roughness Sheffield - Autoline

(LP) - L & W Densometer, Air Permeance

(PP) - Technidyne Profile/Plus

(SH) - Sheffield

(TA) - Thwing-Albert Porocity Tester

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

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

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

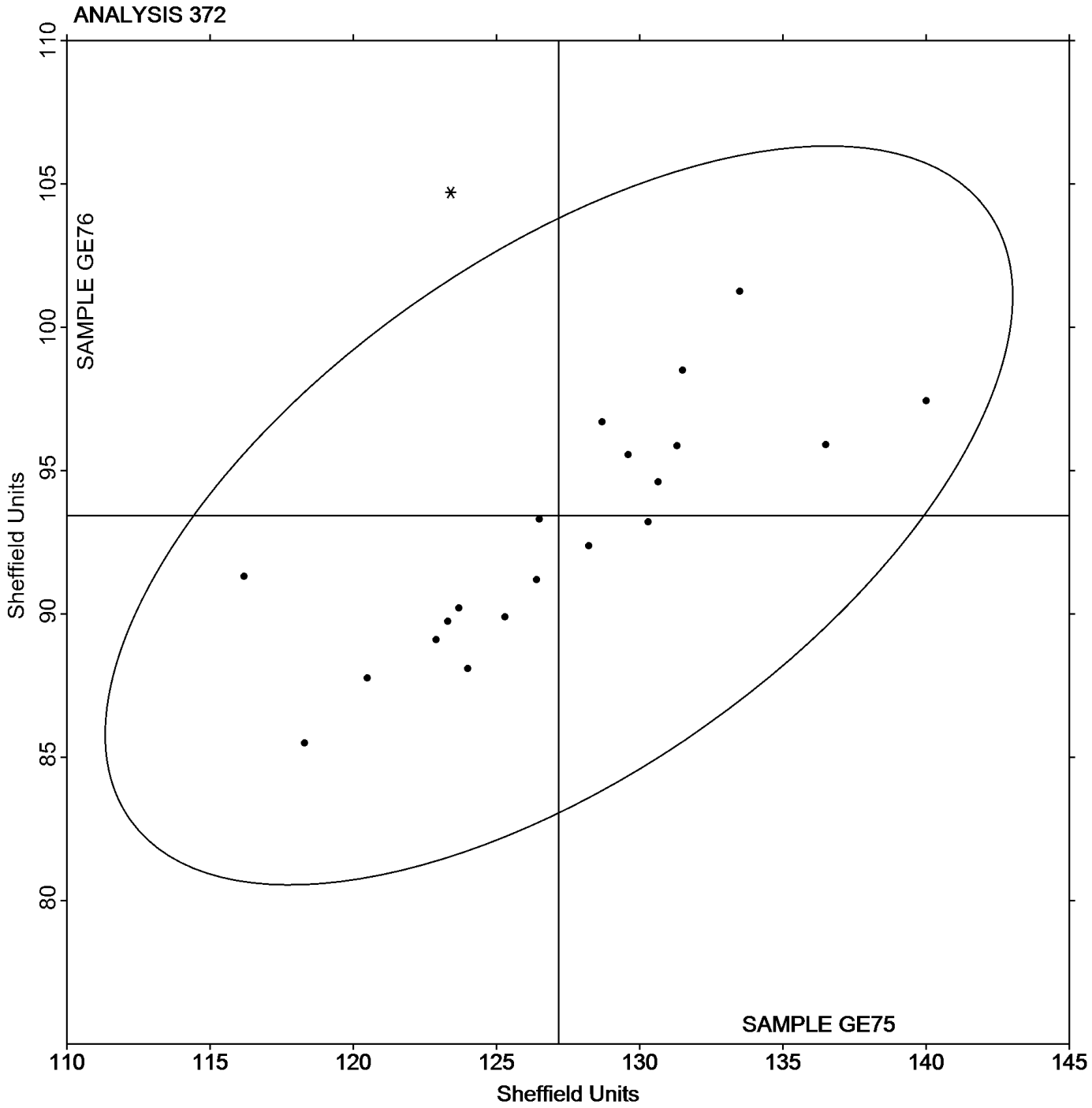
Paper & Paperboard Interlaboratory Testing Program

Analysis 372

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

Grand Mean Sample **GE75** = 127.18 Sheffield Units

Grand Mean Sample **GE76** = 93.437 Sheffield Units



Paper & Paperboard Interlaboratory Testing Program

Analysis 376

Roughness - Print Surf Method - 0.5 to 4.0 Microns

WebCode	Data Flag	Sample GJ75 Lab Mean	Sample GJ75 Diff from Grand Mean	Sample GJ75 CPV	Sample GJ76 Lab Mean	Sample GJ76 Diff from Grand Mean	Sample GJ76 CPV
32EJG7		0.6640	-0.0522	-0.65	0.8810	-0.0719	-0.99
3FBNYC	*	0.7830	0.0668	0.83	1.1080	0.1551	2.13
3Z3P27		0.6810	-0.0352	-0.44	0.9450	-0.0079	-0.11
44JAL2		0.8120	0.0958	1.19	1.0230	0.0701	0.96
4GLZ3Y		0.6410	-0.0752	-0.93	0.9230	-0.0299	-0.41
4P2JLY		0.6850	-0.0312	-0.39	0.9650	0.0121	0.17
6279QD		0.8010	0.0848	1.05	1.0710	0.1181	1.62
6QMWBU		0.6490	-0.0672	-0.83	0.9540	0.0011	0.02
722BTM		0.6630	-0.0532	-0.66	0.9210	-0.0319	-0.44
8XGGU2		0.5870	-0.1292	-1.60	0.8390	-0.1139	-1.56
9APUBT		0.6600	-0.0562	-0.70	0.8810	-0.0719	-0.99
BLF8NU	*	0.8690	0.1528	1.89	0.9900	0.0371	0.51
BW8ZPQ		0.8110	0.0948	1.17	0.9380	-0.0149	-0.20
CX4RGQ		0.7870	0.0708	0.88	1.0410	0.0881	1.21
DXV87T		0.7220	0.0058	0.07	0.9310	-0.0219	-0.30
EG9XYW		0.5520	-0.1642	-2.03	0.8460	-0.1069	-1.47
EVMERK		0.7650	0.0488	0.60	0.9730	0.0201	0.28
GHDHLM	X	2.4510	1.7348	21.47	2.6790	1.7261	23.67
GKF6D7		0.7040	-0.0122	-0.15	0.9980	0.0451	0.62
KZFF8E		0.7580	0.0418	0.52	0.9670	0.0141	0.19
LXA2PF	X	1.5770	0.8608	10.65	1.5940	0.6411	8.79
LZXMAP	X	1.3429	0.6267	7.75	1.3700	0.4171	5.72
N4RDER		0.7280	0.0118	0.15	0.9170	-0.0359	-0.49
NNFZYF		0.6710	-0.0452	-0.56	0.8890	-0.0639	-0.88
NVUUQ4		0.7480	0.0318	0.39	0.9480	-0.0049	-0.07
NYEKFM		0.6400	-0.0762	-0.94	0.9070	-0.0459	-0.63
PLQTEJ	X	1.9850	1.2688	15.70	2.3110	1.3581	18.63
PUFM42		0.8410	0.1248	1.54	1.0640	0.1111	1.52
QMEJ29		0.7760	0.0598	0.74	1.0070	0.0541	0.74
QRM8DP		0.7290	0.0128	0.16	0.9830	0.0301	0.41
R8E9JV		0.7000	-0.0162	-0.20	0.9440	-0.0089	-0.12
RBGZZ9		0.6380	-0.0782	-0.97	0.9290	-0.0239	-0.33
U63DU9		0.6080	-0.1082	-1.34	0.8110	-0.1419	-1.95
UJK7FU		0.8500	0.1338	1.66	1.0490	0.0961	1.32
VBMNQA		0.6260	-0.0902	-1.12	0.8320	-0.1209	-1.66
VEQJBD	X	2.1460	1.4298	17.69	1.7100	0.7571	10.38
VL2MD7		0.7690	0.0528	0.65	1.0180	0.0651	0.89

Paper & Paperboard Interlaboratory Testing Program

Analysis 376

Roughness - Print Surf Method - 0.5 to 4.0 Microns

Summary Statistics

	Sample GJ75	Sample GJ76
Grand Means	0.71619 Microns	0.95291 Microns
SD Btwn Labs	0.08082 Microns	0.07291 Microns

Statistics based on 32 of 37 reporting participants

Comments on assigned Data Flags for Test #376

GHDHLM (X) - Extreme data.

LXA2PF (X) - Extreme data.

LZXMAP (X) - Extreme data.

PLQTEJ (X) - Extreme data.

VEQJBD (X) - Extreme data.

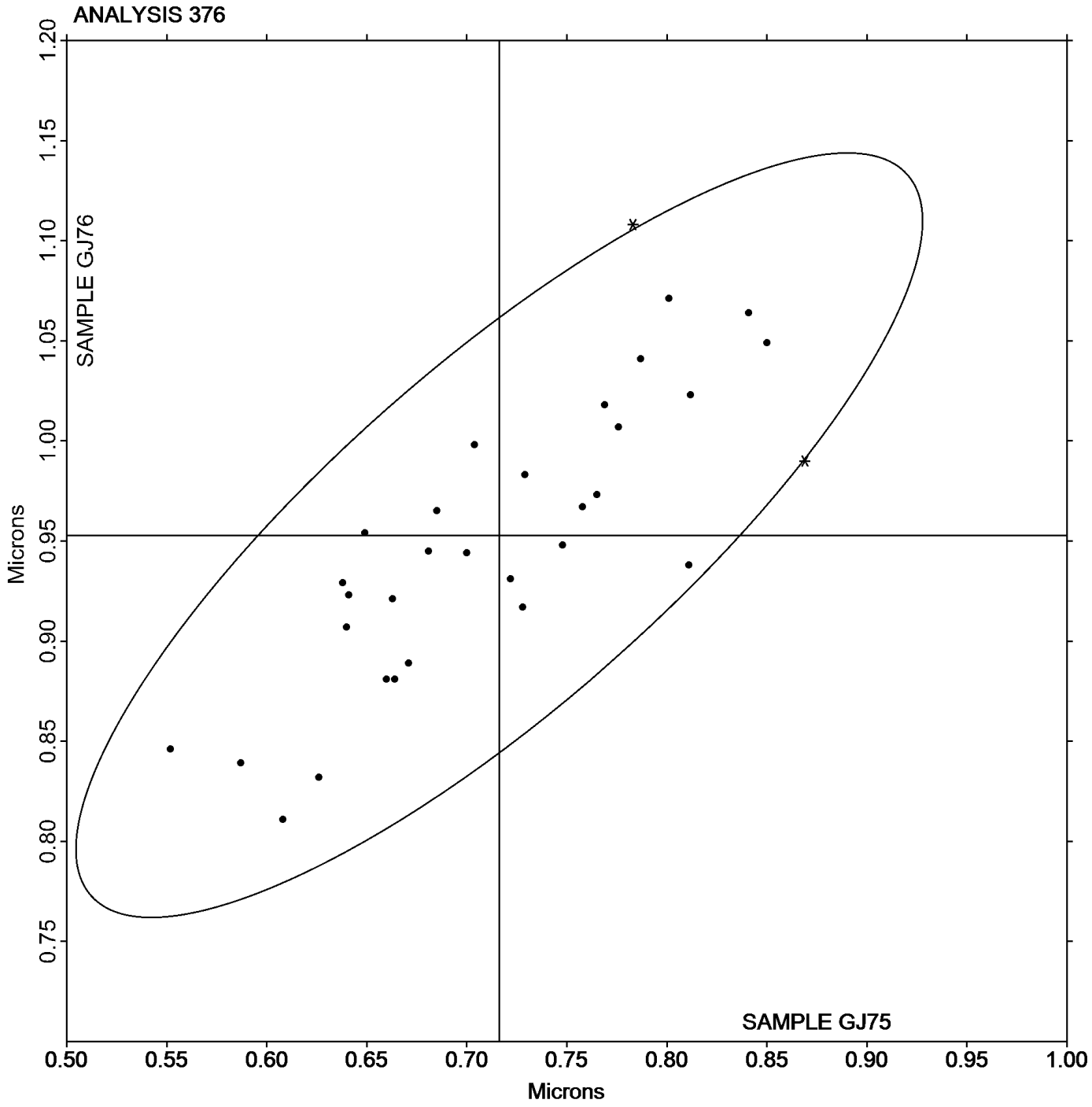
Paper & Paperboard Interlaboratory Testing Program

Analysis 376

Roughness - Print Surf Method - 0.5 to 4.0 Microns

Grand Mean Sample **GJ75** = 0.71619 Microns

Grand Mean Sample **GJ76** = 0.95291 Microns



Paper & Paperboard Interlaboratory Testing Program

Analysis 377

Roughness - Print Surf Method - 2.5 to 6.0 Microns

WebCode	Data Flag	Sample GK75 Lab Mean	Sample GK75 Diff from Grand Mean	Sample GK75 CPV	Sample GK76 Lab Mean	Sample GK76 Diff from Grand Mean	Sample GK76 CPV
4P2JLY		2.722	0.256	1.40	2.828	0.336	1.75
77GU2W		2.351	-0.115	-0.63	2.397	-0.095	-0.49
92VNF7		2.336	-0.130	-0.71	2.304	-0.188	-0.98
9BLCB9		2.769	0.303	1.66	2.767	0.275	1.43
AMME3G		2.520	0.054	0.29	2.540	0.048	0.25
DQ2YNM		2.349	-0.117	-0.64	2.417	-0.075	-0.39
KXCH2T		2.632	0.166	0.91	2.608	0.116	0.61
NVUUQ4		2.323	-0.143	-0.79	2.315	-0.177	-0.92
PUFM42		2.650	0.184	1.01	2.671	0.179	0.93
R8E9JV		2.484	0.018	0.10	2.459	-0.033	-0.17
RR3U2X		2.312	-0.154	-0.85	2.368	-0.124	-0.65
U63DU9		2.174	-0.292	-1.60	2.199	-0.293	-1.53
UJK7FU		2.262	-0.204	-1.12	2.263	-0.229	-1.19
VZNTTE		2.639	0.173	0.95	2.689	0.197	1.03
X4ZFH4		2.473	0.007	0.04	2.554	0.062	0.32

Summary Statistics

	Sample GK75	Sample GK76
Grand Means	2.4664 Microns	2.4919 Microns
SD Btwn Labs	0.1826 Microns	0.1918 Microns

Statistics based on 15 of 15 reporting participants

Notes for Analysis 377

No Data Flags assigned for this analysis.

Analysis Notes:

AMME3G - Data appear to be off by a factor of 10; data converted by CTS (/10).

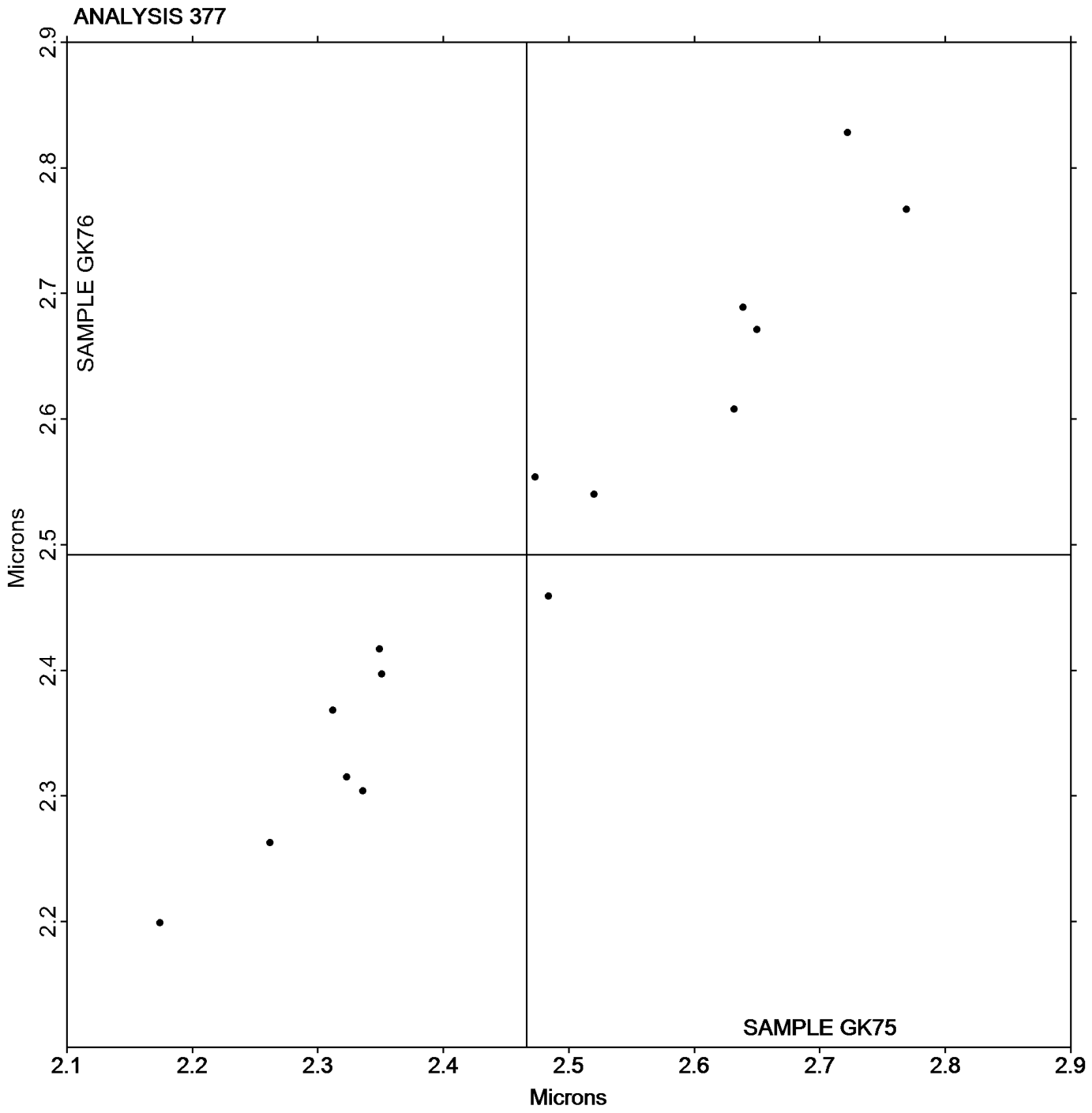
Paper & Paperboard Interlaboratory Testing Program

Analysis 377

Roughness - Print Surf Method - 2.5 to 6.0 Microns

Grand Mean Sample **GK75** = 2.4664 Microns

Grand Mean Sample **GK76** = 2.4919 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 GL75 Lab Mean	Sample GL75 Diff from Grand Mean	Sample GL75 CPV	Sample GL76 Lab Mean	Sample GL76 Diff from Grand Mean	Sample GL76 CPV	Instr Code
32EJG7		154.1	6.2	0.61	107.7	2.4	0.25	SH
3FBNYC		148.6	0.7	0.07	98.6	-6.8	-0.72	PP
3LZ2ZZ		154.2	6.3	0.62	121.8	16.5	1.75	TS
44JAL2		142.6	-5.3	-0.52	96.8	-8.5	-0.91	PP
4BCUEF		146.0	-1.9	-0.18	101.8	-3.5	-0.38	TS
4GLZ3Y		144.9	-3.0	-0.30	108.4	3.0	0.32	PP
4P2JLY	X	50.6	-97.3	-9.59	36.3	-69.0	-7.35	TS
77GU2W	X	176.1	28.2	2.78	163.3	58.0	6.17	LA
7M4YKJ		146.5	-1.4	-0.14	106.0	0.7	0.07	SH
8H7ZLE		164.0	16.1	1.59	110.2	4.9	0.52	HM
8QJ3TZ		142.5	-5.4	-0.53	108.6	3.2	0.34	PP
8XGGU2		142.9	-5.0	-0.49	100.5	-4.8	-0.51	HM
92VNF7		143.1	-4.8	-0.47	94.7	-10.6	-1.13	VM
94GKVJ		143.2	-4.7	-0.46	101.3	-4.0	-0.43	XX
9APUBT		143.9	-4.0	-0.39	95.2	-10.1	-1.08	HM
9BLCB9		160.0	12.1	1.20	117.4	12.1	1.29	HM
BJMLLQ		146.7	-1.2	-0.12	105.3	0.0	0.00	PP
CDDD6M		154.0	6.1	0.60	104.4	-0.9	-0.10	PP
CDED32		141.3	-6.6	-0.65	92.0	-13.3	-1.42	XX
CX4RGQ	*	127.7	-20.1	-1.99	100.0	-5.3	-0.56	PP
DJHKWB		164.0	16.1	1.59	121.5	16.2	1.72	GL
DNRUBY		144.0	-3.9	-0.38	106.0	0.7	0.07	SH
DQ2YNM		141.4	-6.5	-0.64	95.0	-10.3	-1.10	HM
DXVYCM		136.8	-11.1	-1.09	94.2	-11.1	-1.19	GA
EG9XYW		146.9	-1.0	-0.10	102.8	-2.5	-0.27	HM
EQVWRM		142.2	-5.7	-0.56	107.7	2.4	0.25	SH
FWFCVK	*	171.0	23.1	2.28	129.0	23.7	2.52	TT
FXR4UT		132.0	-15.9	-1.56	94.4	-10.9	-1.16	GA
GHDHLM		130.0	-17.9	-1.77	98.5	-6.9	-0.73	PP
GKWJHU		157.1	9.2	0.91	114.1	8.8	0.93	TT
JUZ46M		145.4	-2.5	-0.24	99.1	-6.2	-0.66	HM
JY8U8T		140.9	-7.0	-0.69	96.2	-9.1	-0.97	HM
KZFF8E		140.6	-7.3	-0.72	103.2	-2.1	-0.23	HM
NNFZYF	X	5.9	-142.0	-14.00	4.6	-100.8	-10.73	TS
NT9YDB		145.1	-2.8	-0.27	96.9	-8.4	-0.90	HM
NVUUQ4		139.7	-8.2	-0.81	100.0	-5.3	-0.57	TT
PGBFAP		142.3	-5.6	-0.55	97.9	-7.4	-0.79	SH
PGTACK		152.0	4.1	0.41	97.9	-7.4	-0.79	HM
PGU4VQ		151.7	3.8	0.38	111.0	5.7	0.60	SH
PLQTEJ		162.7	14.8	1.46	113.2	7.9	0.84	PP
QP36LJ		139.6	-8.3	-0.82	108.8	3.5	0.37	XX
R28K6U		135.7	-12.2	-1.20	102.7	-2.7	-0.28	MP
RBGZZ9		151.2	3.3	0.33	102.7	-2.6	-0.28	PP

Paper & Paperboard Interlaboratory Testing Program

Analysis 378

Roughness - Sheffield Type

WebCode	Data Flag	Sample GL75 Lab Mean	Sample GL75 Diff from Grand Mean	Sample GL75 CPV	Sample GL76 Lab Mean	Sample GL76 Diff from Grand Mean	Sample GL76 CPV	Instr Code
RCBX49		152.3	4.4	0.44	122.3	17.0	1.81	XX
RR3U2X	*	165.3	17.5	1.72	130.8	25.5	2.71	GA
RXCTXW	X	182.0	34.1	3.36	135.5	30.2	3.21	GL
TYJGY9		140.9	-7.0	-0.69	103.4	-1.9	-0.21	HM
U2ZA48		138.1	-9.8	-0.97	92.3	-13.0	-1.39	PP
U63DU9		160.0	12.1	1.20	109.6	4.3	0.45	XX
UJK7FU		140.5	-7.4	-0.73	104.0	-1.3	-0.14	GL
VBMNQA		146.4	-1.5	-0.14	101.8	-3.5	-0.38	HM
VEQJBD		146.0	-1.9	-0.18	98.4	-6.9	-0.74	HM
VL2MD7	*	178.0	30.1	2.97	125.5	20.2	2.15	TS
VNCKT9		152.3	4.4	0.43	105.7	0.4	0.04	GA
VNRTTW		139.3	-8.6	-0.84	103.6	-1.7	-0.18	TT
VP6KJR	X	231.4	83.5	8.23	154.6	49.3	5.25	HM
VYT6C6		153.6	5.8	0.57	116.1	10.7	1.14	PP
VZNTTE		156.1	8.3	0.81	109.2	3.9	0.41	PP
WE67KE		136.5	-11.4	-1.12	94.5	-10.8	-1.15	HM
X4ZFH4		158.8	10.9	1.08	119.7	14.4	1.53	LW
X7KLF7	X	128.5	-19.4	-1.91	279.5	174.2	18.55	HM
XBTUWA	X	145.1	-2.8	-0.28	100.8	-4.5	-0.48	VM
XKJKEV		135.7	-12.2	-1.20	95.1	-10.2	-1.09	LA
XN3A3F		162.7	14.8	1.46	115.6	10.3	1.09	PG
YGY4M3		157.0	9.1	0.90	101.5	-3.9	-0.41	PP
ZEQZLZ		146.5	-1.4	-0.14	102.3	-3.0	-0.32	HM

Summary Statistics

	Sample GL75	Sample GL76
Grand Means	147.87 Sheffield	105.33 Sheffield
SD Btwn Labs	10.14 Sheffield	9.39 Sheffield

Statistics based on 59 of 66 reporting participants

Comments on assigned Data Flags for Test #378

4P2JLY (X) - Extreme data.

77GU2W (X) - Extreme data.

NNFZYF (X) - Extreme data.

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

VP6KJR (X) - Extreme data.

X7KLF7 (X) - Extreme data.

XBTUWA (X) - Data appears to be transposed between samples. Data switched by CTS.

CDDD6M - One determination removed from the Lab Mean of Sample GL75 per Grubb's Test at 1% risk

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

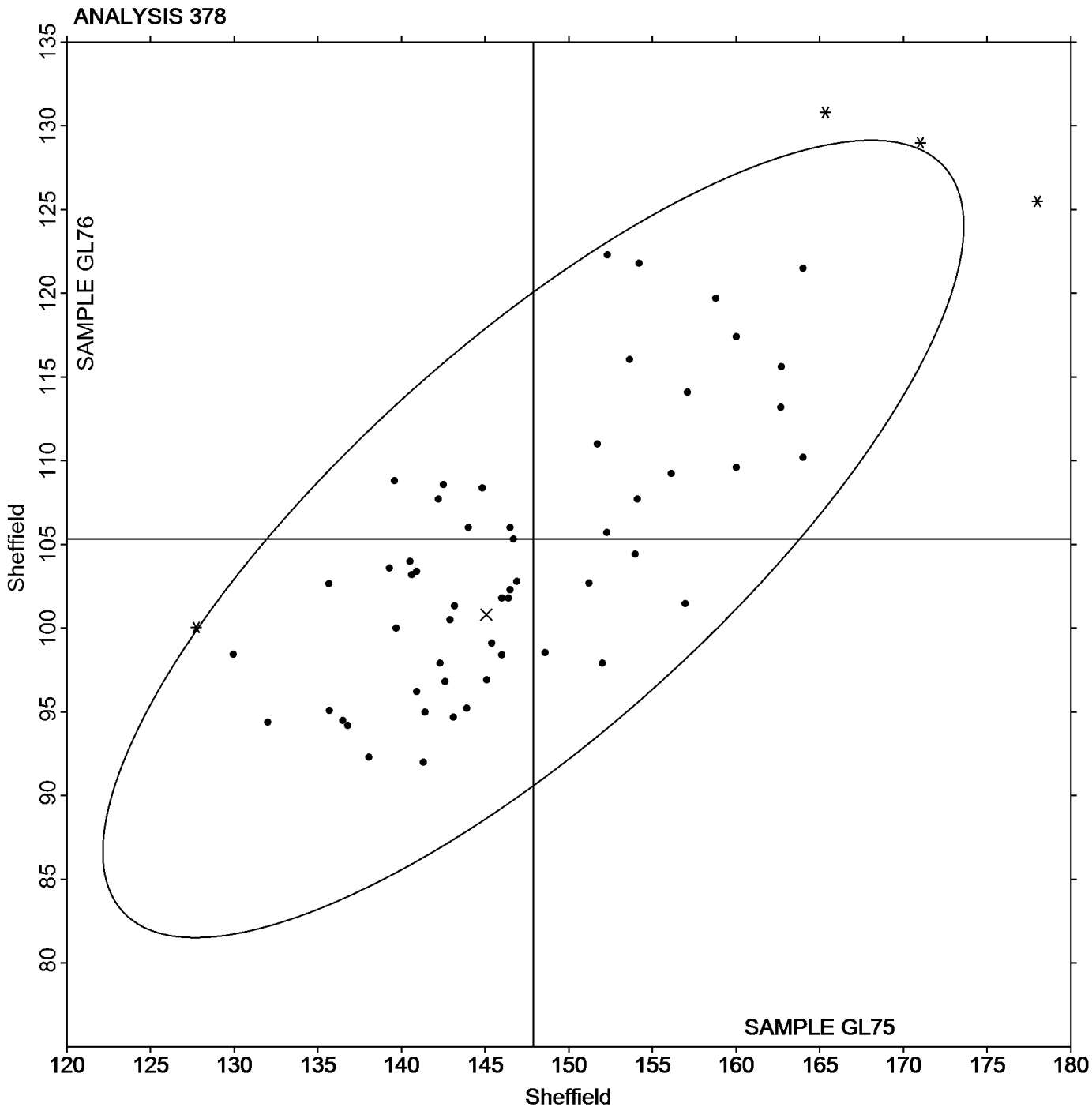
Paper & Paperboard Interlaboratory Testing Program

Analysis 378

Roughness - Sheffield Type

Grand Mean Sample **GL75** = 147.87 Sheffield

Grand Mean Sample **GL76** = 105.33 Sheffield



Paper & Paperboard Interlaboratory Testing Program

Analysis 382

Moisture in Paper

WebCode	Data Flag	Sample GM75 Lab Mean	Sample GM75 Diff from Grand Mean	Sample GM75 CPV	Sample GM76 Lab Mean	Sample GM76 Diff from Grand Mean	Sample GM76 CPV
43HLVA		6.277	1.296	2.17	6.029	0.898	1.91
8H7ZLE		4.961	-0.020	-0.03	5.149	0.019	0.04
9LKXQF		4.311	-0.670	-1.12	4.562	-0.568	-1.21
9V493T		5.410	0.429	0.72	5.530	0.400	0.85
AJQNYQ		4.616	-0.365	-0.61	4.781	-0.349	-0.74
AMME3G		5.230	0.249	0.42	5.520	0.390	0.83
GKWJHU		5.260	0.279	0.47	5.210	0.080	0.17
NMYPZM		4.783	-0.198	-0.33	5.024	-0.106	-0.23
TYJGY9		4.260	-0.721	-1.20	4.500	-0.630	-1.34
XZEZGB		4.700	-0.281	-0.47	5.000	-0.130	-0.28

Summary Statistics

	Sample GM75		Sample GM76	
Grand Means	4.9808	Percent	5.1305	Percent
SD Btwn Labs	0.5984	Percent	0.4710	Percent

Statistics based on 10 of 10 reporting participants

Notes for Analysis 382

No Data Flags assigned for this analysis.

Analysis Notes:

AMME3G - Data appear to be off by a factor of 100; data converted by CTS (/100).

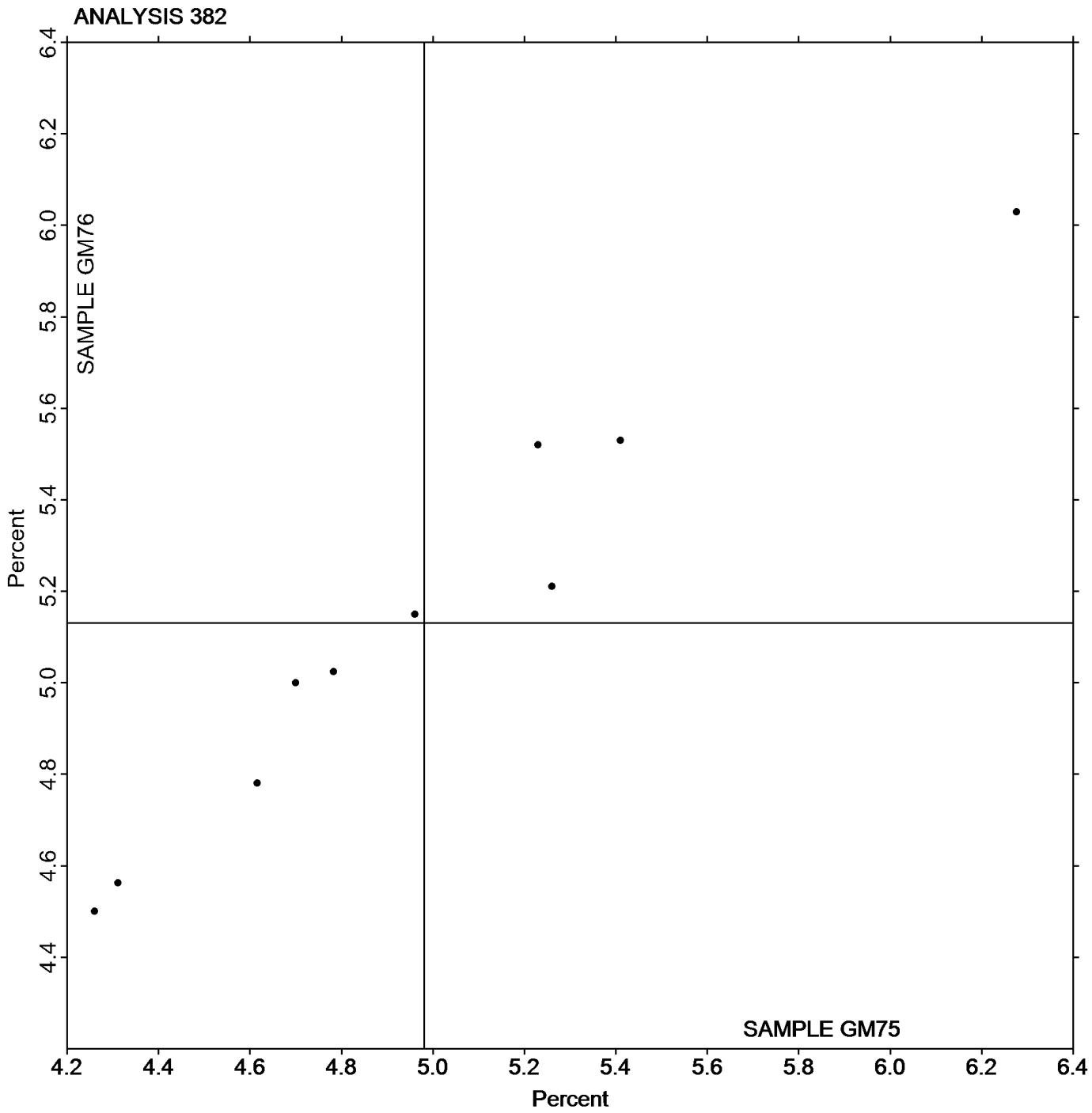
Paper & Paperboard Interlaboratory Testing Program

Analysis 382

Moisture in Paper

Grand Mean Sample **GM75** = 4.9808 Percent

Grand Mean Sample **GM76** = 5.1305 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 GN75 Lab Mean	Sample GN75 Diff from Grand Mean	Sample GN75 CPV	Sample GN76 Lab Mean	Sample GN76 Diff from Grand Mean	Sample GN76 CPV
2A9C6Z		90.66	-0.17	-0.39	89.61	-0.19	-0.50
2CVV9J		90.79	-0.05	-0.11	89.89	0.08	0.21
2Z7QN2		91.50	0.67	1.49	90.36	0.56	1.43
32EJG7		91.00	0.17	0.37	90.22	0.42	1.07
3FBNYC		90.55	-0.28	-0.64	90.03	0.23	0.58
44JAL2		90.55	-0.28	-0.64	90.05	0.25	0.63
4BCUEF		90.73	-0.10	-0.23	89.20	-0.60	-1.55
4P2JLY		91.02	0.19	0.42	90.25	0.45	1.15
722BTM		90.65	-0.18	-0.41	89.49	-0.31	-0.80
77GU2W		89.83	-1.00	-2.25	89.14	-0.66	-1.70
8QJ3TZ		90.97	0.14	0.31	89.66	-0.15	-0.38
8YTDZ7		90.55	-0.28	-0.64	89.75	-0.05	-0.14
92VNF7		90.74	-0.09	-0.21	89.61	-0.19	-0.50
9APUBT		90.29	-0.54	-1.22	89.84	0.04	0.09
9BLCB9		91.82	0.98	2.20	90.15	0.35	0.90
B8EHL3		91.11	0.28	0.62	90.06	0.26	0.66
CDDD6M		90.14	-0.69	-1.55	88.98	-0.82	-2.11
DNRUBY		91.10	0.27	0.59	89.98	0.18	0.45
DXV87T		90.67	-0.16	-0.37	89.80	0.00	-0.01
FWFCVK	X	91.53	0.70	1.56	91.00	1.20	3.07
JY8U8T		90.95	0.12	0.26	89.72	-0.09	-0.22
KZFF8E		91.47	0.64	1.42	89.92	0.12	0.30
NT9YDB		90.80	-0.03	-0.08	89.84	0.04	0.09
NYEKFM	*	91.65	0.82	1.82	89.84	0.04	0.09
PGBFAP		91.28	0.44	0.99	90.51	0.70	1.81
PGTACK		90.58	-0.25	-0.57	89.80	0.00	-0.01
PGU4VQ		90.52	-0.31	-0.70	89.03	-0.77	-1.98
QMEJ29		90.78	-0.05	-0.12	89.90	0.10	0.25
QP36LJ		90.60	-0.23	-0.52	89.60	-0.20	-0.52
QRM8DP		90.13	-0.70	-1.57	89.39	-0.42	-1.07
R8E9JV		91.02	0.19	0.42	89.78	-0.02	-0.06
RCBX49		90.05	-0.78	-1.75	89.07	-0.73	-1.88
RK7QKF		90.56	-0.28	-0.62	89.68	-0.12	-0.31
RR3U2X		90.91	0.07	0.16	89.78	-0.02	-0.06
RXCTXW		91.63	0.80	1.78	90.41	0.61	1.56
TYJGY9		90.87	0.04	0.08	89.67	-0.13	-0.34
VEQJBD		90.81	-0.02	-0.05	89.92	0.12	0.30
VGUC6C	X	93.12	2.28	5.11	92.35	2.54	6.52
VZNTTE		91.38	0.55	1.23	90.48	0.68	1.74
WE67KE		91.15	0.32	0.71	89.96	0.16	0.40
X7KLF7		91.21	0.37	0.84	89.95	0.15	0.38
XBTUWA		90.20	-0.64	-1.42	89.17	-0.63	-1.62
XN3A3F		90.59	-0.24	-0.55	89.72	-0.08	-0.21

Paper & Paperboard Interlaboratory Testing Program

Analysis 384

Opacity (89% Reflectance Backing) - Fine Papers

WebCode	Data Flag	Sample GN75 Lab Mean	Sample GN75 Diff from Grand Mean	Sample GN75 CPV	Sample GN76 Lab Mean	Sample GN76 Diff from Grand Mean	Sample GN76 CPV
XZD6X6		91.33	0.50	1.11	90.49	0.69	1.76
YGY4M3		90.75	-0.08	-0.19	89.86	0.06	0.14

Summary Statistics

	Sample GN75	Sample GN76
Grand Means	90.834 Percent	89.804 Percent
SD Btwn Labs	0.447 Percent	0.390 Percent

Statistics based on 43 of 45 reporting participants

Comments on assigned Data Flags for Test #384

FWFCVK (X) - Inconsistent in testing between samples, data for Sample GN76 are high.

VGUC6C (X) - Extreme data.

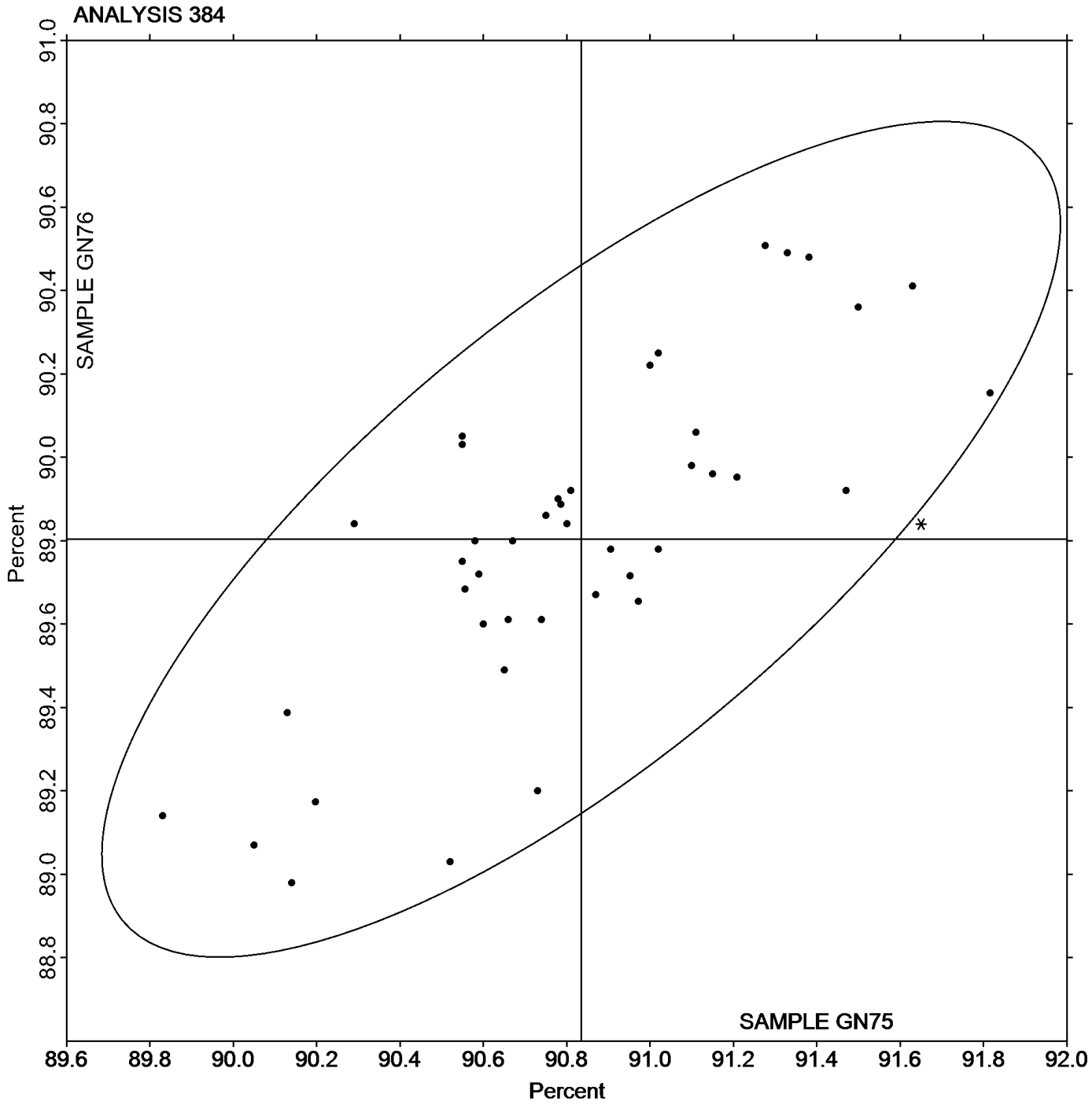
Paper & Paperboard Interlaboratory Testing Program

Analysis 384

Opacity (89% Reflectance Backing) - Fine Papers

Grand Mean Sample **GN75** = 90.834 Percent

Grand Mean Sample **GN76** = 89.804 Percent



Paper & Paperboard Interlaboratory Testing Program

Analysis 386

Opacity (Paper Backing) - Fine Papers and Newsprint

WebCode	Data Flag	Sample GP75 Lab Mean	Sample GP75 Diff from Grand Mean	Sample GP75 CPV	Sample GP76 Lab Mean	Sample GP76 Diff from Grand Mean	Sample GP76 CPV
2TMMED		93.02	0.03	0.28	92.17	0.05	0.51
4HFNJA		92.95	-0.04	-0.36	92.12	0.00	0.02
6QMWBU		93.03	0.04	0.36	92.12	0.00	0.01
744A4F		92.96	-0.03	-0.22	92.17	0.05	0.51
88LQXK		92.99	0.01	0.05	92.13	0.01	0.14
94GKVJ		93.06	0.07	0.62	92.09	-0.03	-0.27
9BLCB9		92.90	-0.09	-0.78	92.02	-0.10	-0.99
9D6BHC		92.77	-0.22	-1.91	92.11	0.00	-0.03
9LKXQF		92.99	0.00	0.00	91.98	-0.14	-1.35
AJQNYQ		93.01	0.02	0.18	92.05	-0.07	-0.71
CYEHJF	X	93.43	0.44	3.75	91.84	-0.28	-2.79
EVMERK		93.16	0.17	1.44	92.18	0.06	0.63
GKF6D7		92.89	-0.10	-0.85	92.22	0.10	1.04
JUZ46M		92.98	-0.01	-0.08	91.95	-0.17	-1.69
JY8U8T		93.03	0.04	0.32	92.24	0.12	1.21
KHH92T		92.89	-0.10	-0.85	92.01	-0.10	-1.04
LXA2PF	X	96.20	3.21	27.38	95.47	3.35	33.49
MDD844		92.85	-0.14	-1.19	92.21	0.09	0.91
QMEJ29		92.97	-0.02	-0.16	92.23	0.11	1.13
R7L9RC		92.86	-0.13	-1.13	91.91	-0.21	-2.07
T6PF8C		92.87	-0.12	-1.01	92.18	0.06	0.63
T73MVF		93.04	0.05	0.43	92.24	0.12	1.21
U4MU8Q		92.91	-0.08	-0.68	92.01	-0.11	-1.05
UGUYZ4		93.00	0.01	0.10	92.13	0.01	0.13
VP799H		93.10	0.11	0.96	92.02	-0.10	-1.00
WWL8G3		93.27	0.28	2.40	92.28	0.16	1.61
X4ZFH4		93.23	0.24	2.06	92.17	0.05	0.53

Summary Statistics

	Sample GP75	Sample GP76
Grand Means	92.988 Percent	92.117 Percent
SD Btwn Labs	0.117 Percent	0.100 Percent

Statistics based on 25 of 27 reporting participants

Comments on assigned Data Flags for Test #386

CYEHJF (X) - Inconsistent in testing between samples, data for Sample GP75 are high and data for Sample GP76 are low.

LXA2PF (X) - Extreme data.

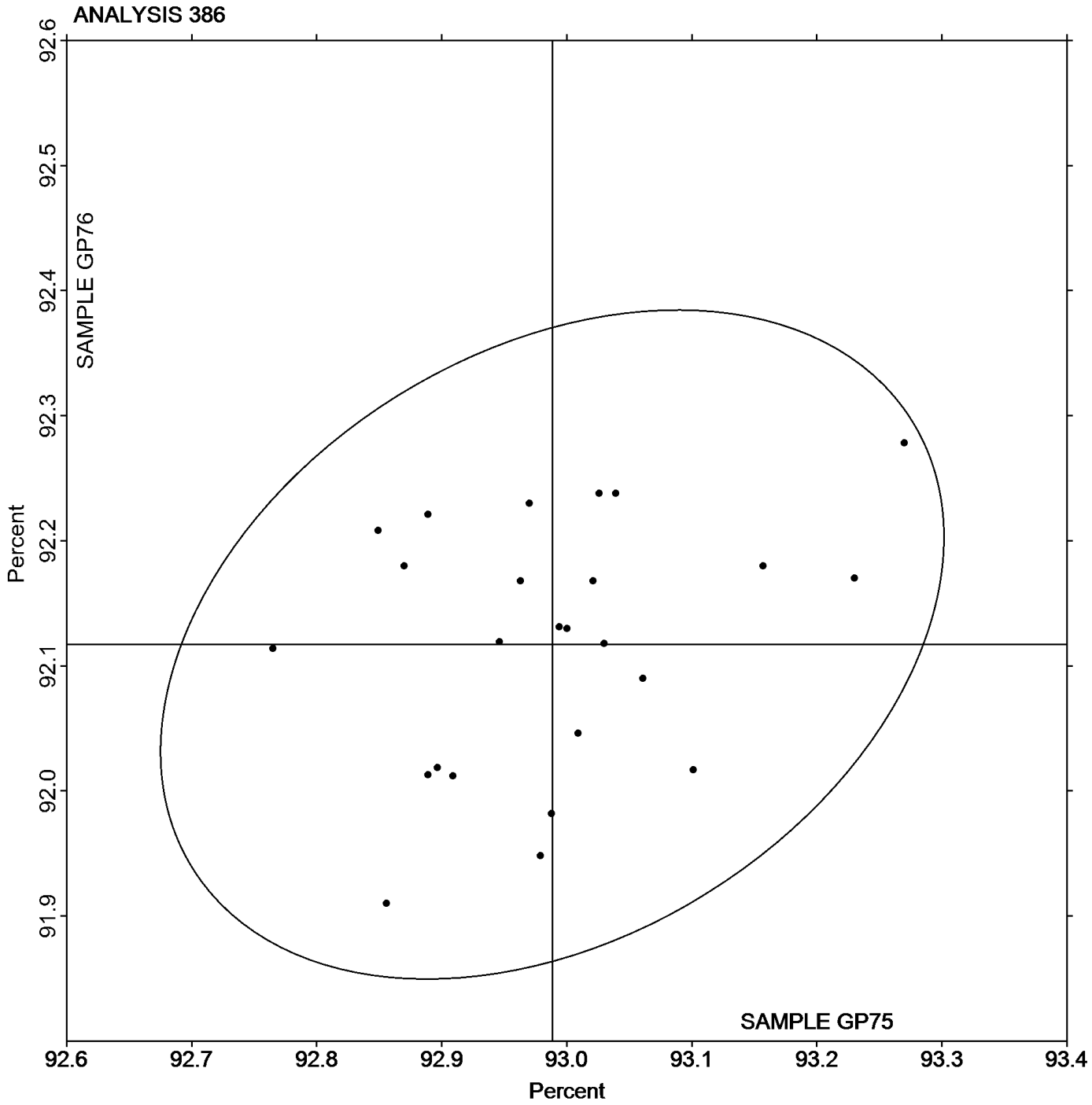
Paper & Paperboard Interlaboratory Testing Program

Analysis 386

Opacity (Paper Backing) - Fine Papers and Newsprint

Grand Mean Sample **GP75** = 92.988 Percent

Grand Mean Sample **GP76** = 92.117 Percent



Paper & Paperboard Interlaboratory Testing Program

Analysis 390

Directional Brightness

WebCode	Data Flag	Sample GR75 Lab Mean	Sample GR75 Diff from Grand Mean	Sample GR75 CPV	Sample GR76 Lab Mean	Sample GR76 Diff from Grand Mean	Sample GR76 CPV	Instr Code
2CVV9J		82.11	-0.31	-0.32	82.13	-0.27	-0.28	TS
2Z7QN2		81.75	-0.67	-0.69	81.78	-0.62	-0.64	TS
4BCUEF		83.16	0.74	0.76	83.11	0.71	0.74	PE
4GLZ3Y		83.13	0.71	0.73	83.15	0.75	0.77	HD
4P2JLY		81.74	-0.69	-0.70	81.55	-0.85	-0.88	TS
722BTM		82.40	-0.02	-0.02	82.36	-0.04	-0.04	TT
77GU2W	*	81.96	-0.46	-0.47	82.29	-0.11	-0.12	TS
9APUBT		82.55	0.13	0.13	82.54	0.14	0.14	TA
AMME3G	X	77.58	-4.85	-4.97	77.66	-4.74	-4.88	TS
B8EHL3		82.00	-0.42	-0.43	82.01	-0.39	-0.40	TT
BLF8NU		82.26	-0.16	-0.17	82.28	-0.12	-0.13	TS
CX4RGQ		83.51	1.09	1.12	83.48	1.08	1.11	HD
CYEHJF	X	82.30	-0.12	-0.13	83.73	1.33	1.37	PE
DJHKWB		82.61	0.19	0.19	82.44	0.04	0.04	TT
DNRUBY		81.81	-0.61	-0.63	81.93	-0.47	-0.49	TA
DXV87T		81.88	-0.55	-0.56	81.96	-0.44	-0.45	TS
FWFCVK	*	84.28	1.85	1.90	84.05	1.65	1.70	TT
GHDHLM		83.20	0.78	0.80	83.19	0.79	0.81	TT
J4ME73		81.10	-1.32	-1.36	81.08	-1.32	-1.37	XX
JY8U8T		82.26	-0.16	-0.17	82.30	-0.10	-0.10	TS
KZFF8E		83.09	0.66	0.68	83.16	0.76	0.79	TT
NT9YDB	X	91.45	9.03	9.27	91.95	9.55	9.85	XX
NVUUQ4		82.15	-0.27	-0.28	82.00	-0.40	-0.41	TT
PGTACK		81.39	-1.03	-1.06	81.33	-1.07	-1.10	GM
PGU4VQ		82.29	-0.14	-0.14	82.28	-0.12	-0.12	MG
PLQTEJ		80.48	-1.95	-2.00	80.43	-1.97	-2.04	PP
QMEJ29		81.49	-0.94	-0.96	81.50	-0.90	-0.93	TT
QP36LJ		84.63	2.20	2.26	84.54	2.14	2.20	XX
R8E9JV		83.94	1.51	1.55	84.01	1.61	1.66	XX
RCBX49	X	87.19	4.77	4.89	87.28	4.88	5.03	PE
REELPQ	X	91.39	8.96	9.20	91.41	9.01	9.29	HG
U2ZA48		82.93	0.51	0.52	82.91	0.51	0.53	TS
VEQJBD		82.49	0.06	0.07	82.58	0.18	0.18	TA
VL2MD7		83.75	1.33	1.36	83.75	1.35	1.39	TS
WE67KE		80.70	-1.72	-1.77	80.69	-1.71	-1.76	XX
XBTUWA		81.80	-0.62	-0.64	81.76	-0.64	-0.66	TT
XN3A3F		82.91	0.48	0.49	82.88	0.48	0.50	TS
YGY4M3		81.76	-0.66	-0.68	81.64	-0.76	-0.79	TT

Paper & Paperboard Interlaboratory Testing Program
Analysis 390
Directional Brightness

Summary Statistics

	Sample GR75	Sample GR76
Grand Means	82.423 Percent	82.399 Percent
SD Btwn Labs	0.975 Percent	0.970 Percent

Statistics based on 32 of 38 reporting participants

Comments on assigned Data Flags for Test #390

AMME3G (X) - Systematic error (data for both samples are low).

CYEHJF (X) - Inconsistent in testing between samples and within the determinations for both samples.

NT9YDB (X) - Extreme data.

RCBX49 (X) - Extreme data.

REELPQ (X) - Extreme data.

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

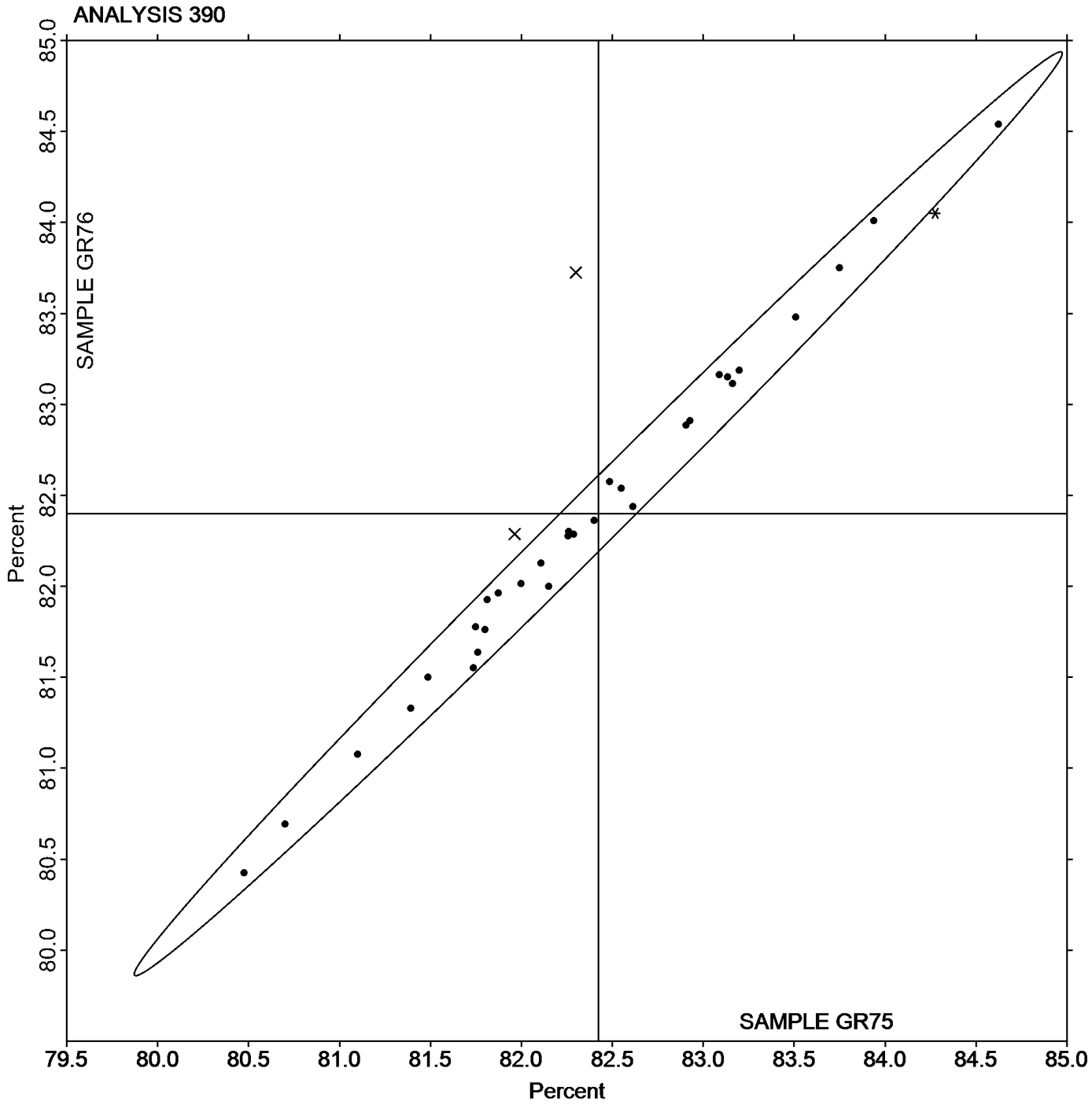
Paper & Paperboard Interlaboratory Testing Program

Analysis 390

Directional Brightness

Grand Mean Sample **GR75** = 82.423 Percent

Grand Mean Sample **GR76** = 82.399 Percent



Paper & Paperboard Interlaboratory Testing Program

Analysis 391

Directional Brightness of Fluorescent Samples

WebCode	Data Flag	Sample GZ75 Lab Mean	Sample GZ75 Diff from Grand Mean	Sample GZ75 CPV	Sample GZ76 Lab Mean	Sample GZ76 Diff from Grand Mean	Sample GZ76 CPV	Instr Code
2A9C6Z	X	108.00	13.68	10.32	111.87	15.27	11.82	HT
2Z7QN2		93.64	-0.68	-0.51	96.26	-0.34	-0.27	TS
4BCUEF		95.02	0.70	0.52	97.66	1.06	0.82	TS
4P2JLY		93.60	-0.72	-0.54	96.10	-0.50	-0.39	TS
7DWDHB		96.17	1.85	1.39	96.64	0.03	0.03	TS
8QJ3TZ		93.25	-1.07	-0.81	96.39	-0.21	-0.16	TS
8YTDZ7	X	110.43	16.11	12.16	114.90	18.30	14.16	HT
9BLCB9		94.09	-0.23	-0.18	96.48	-0.12	-0.09	TS
B8EHL3		94.08	-0.24	-0.18	95.88	-0.72	-0.56	TT
GKWJHU		97.70	3.38	2.55	99.78	3.18	2.46	EF
NYEKFM		94.56	0.24	0.18	97.06	0.46	0.35	EF
PGBFAP		94.99	0.67	0.51	97.70	1.10	0.85	TS
PGTACK		91.86	-2.46	-1.86	94.33	-2.28	-1.76	GM
QRM8DP		94.58	0.26	0.20	97.25	0.65	0.50	PP
RR3U2X		94.25	-0.07	-0.06	96.87	0.26	0.20	TS
UJK7FU		95.17	0.85	0.64	95.70	-0.90	-0.70	TS
VZNTTE		94.02	-0.30	-0.23	96.72	0.12	0.09	TS
WE67KE		92.13	-2.19	-1.66	93.82	-2.79	-2.16	XX
X7KLF7		94.28	-0.04	-0.03	97.00	0.40	0.31	TS
XKJKEV		94.40	0.08	0.06	97.20	0.60	0.46	TT

Summary Statistics

	Sample GZ75	Sample GZ76
Grand Means	94.320 Percent	96.603 Percent
SD Btwn Labs	1.325 Percent	1.292 Percent

Statistics based on 18 of 20 reporting participants

Comments on assigned Data Flags for Test #391

2A9C6Z (X) - Extreme data.

8YTDZ7 (X) - Extreme data.

Instrument Code List as Reported by the Labs

(EF) - L & W Datacolor Elrepho

(GM) - Gretag Macbeth Color i5

(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

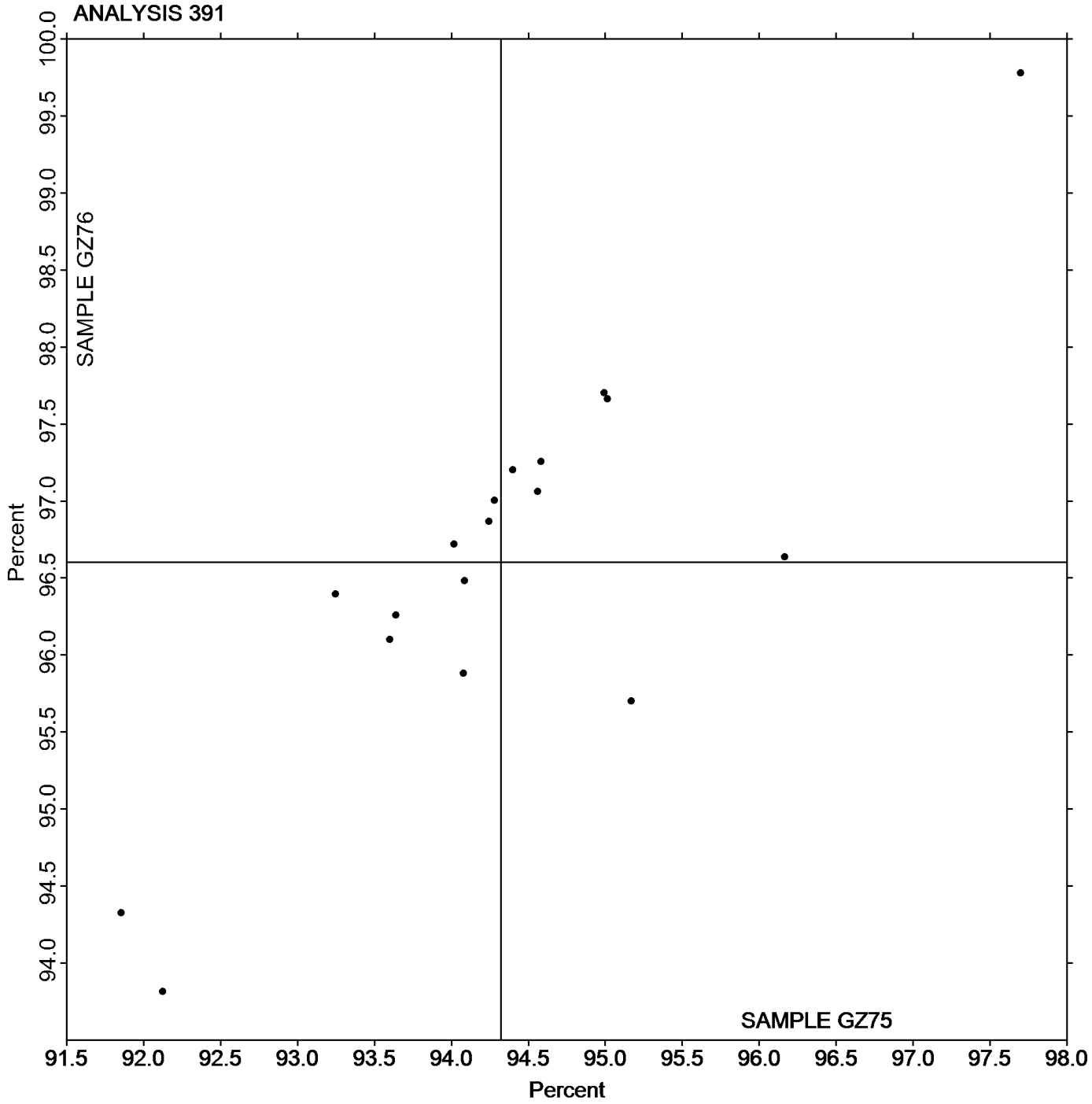
Paper & Paperboard Interlaboratory Testing Program

Analysis 391

Directional Brightness of Fluorescent Samples

Grand Mean Sample **GZ75** = 94.320 Percent

Grand Mean Sample **GZ76** = 96.603 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 GR75 Lab Mean	Sample GR75 Diff from Grand Mean	Sample GR75 CPV	Sample GR76 Lab Mean	Sample GR76 Diff from Grand Mean	Sample GR76 CPV	Instr Code
29FE2Z		83.05	0.19	0.56	83.00	0.13	0.41	TC
32EJG7		83.10	0.23	0.71	83.07	0.20	0.64	TC
44JAL2		83.10	0.24	0.73	83.06	0.20	0.62	TC
6HBQM4		82.93	0.07	0.21	82.97	0.11	0.34	TC
6QMWBU		82.72	-0.14	-0.44	82.74	-0.12	-0.39	LS
744A4F		82.97	0.11	0.32	82.98	0.11	0.35	TM
77GU2W		82.81	-0.05	-0.16	82.94	0.07	0.22	TC
94GKVJ		83.05	0.19	0.57	83.03	0.17	0.52	XX
9BLCB9		82.99	0.13	0.39	82.98	0.12	0.37	TM
9D6BHC		82.51	-0.35	-1.07	82.51	-0.35	-1.12	XX
9LKXQF		82.62	-0.24	-0.72	82.69	-0.18	-0.56	LS
AJQNYQ	X	80.64	-2.23	-6.77	80.69	-2.18	-6.87	LA
B8EHL3		82.88	0.01	0.04	82.96	0.09	0.28	TC
CDED32	X	85.44	2.58	7.83	85.48	2.61	8.24	EF
CYEHJF	*	82.89	0.03	0.08	82.63	-0.23	-0.73	FR
EVMERK		83.26	0.39	1.19	83.19	0.32	1.02	TM
GHDHLM		82.23	-0.64	-1.94	82.25	-0.61	-1.94	TL
GKF6D7	X	81.50	-1.36	-4.14	81.56	-1.30	-4.10	LS
GKWJHU		82.50	-0.36	-1.10	82.51	-0.35	-1.11	LA
J4ME73		82.68	-0.18	-0.55	82.66	-0.21	-0.66	EE
JUZ46M		82.99	0.13	0.40	82.99	0.13	0.40	TC
JY8U8T		82.89	0.03	0.08	82.86	0.00	-0.01	TM
LXA2PF	X	80.40	-2.47	-7.50	80.42	-2.45	-7.73	LA
N4RDER		83.02	0.16	0.47	83.02	0.15	0.48	TM
NMYPZM		83.35	0.49	1.48	83.36	0.49	1.55	PP
NVUUQ4		83.14	0.27	0.83	83.12	0.26	0.81	EG
PCWRRD	*	81.98	-0.89	-2.70	82.01	-0.86	-2.71	TM
PGU4VQ	X	85.44	2.58	7.84	85.51	2.64	8.33	TC
PUFM42		82.93	0.07	0.21	82.84	-0.02	-0.07	TC
QMEJ29		83.48	0.61	1.86	83.44	0.57	1.81	TM
R7L9RC		82.10	-0.76	-2.32	82.09	-0.77	-2.44	TM
R7LKZZ		82.97	0.11	0.33	83.01	0.15	0.47	TC
T4F6FF		82.38	-0.48	-1.45	82.45	-0.41	-1.30	TC
T6PF8C		82.93	0.06	0.19	82.99	0.12	0.39	TM
T73MVF		83.04	0.18	0.54	83.07	0.20	0.64	TC
U4MU8Q		82.94	0.08	0.24	82.84	-0.02	-0.07	TC
U8NWWR		82.92	0.06	0.18	82.85	-0.01	-0.04	TC
V86NAA		83.00	0.14	0.42	82.95	0.08	0.26	XX
VGUC6C	*	82.91	0.05	0.14	83.09	0.22	0.70	TC
X4ZFH4		82.98	0.12	0.36	82.91	0.05	0.14	TC

Paper & Paperboard Interlaboratory Testing Program
Analysis 392
Diffuse Brightness

Summary Statistics

	Sample GR75	Sample GR76
Grand Means	82.862 Percent	82.865 Percent
SD Btwn Labs	0.329 Percent	0.317 Percent

Statistics based on 34 of 40 reporting participants

Comments on assigned Data Flags for Test #392

AJQNYQ (X) - Extreme data.

CDED32 (X) - Extreme data.

GKF6D7 (X) - Systematic error (data for both samples are low).

LXA2PF (X) - Extreme data.

PGU4VQ (X) - Extreme data.

Instrument Code List as Reported by the Labs

(EE) - Datacolor Elrepho 2000
(EF) - Datacolor Elrepho 3000
(EG) - Datacolor Elrepho 450X
(FR) - Frank Instruments
(LA) - L & W Elrepho - Autoline
(LS) - L & W Elrepho SE 070
(PP) - Technidyne Profile/Plus
(TC) - Technidyne Color Touch Series
(TL) - Technidyne Technibrite TB-1
(TM) - Technidyne Technibrite Micro TB-1C
(XX) - Instrument make/model not specified by lab

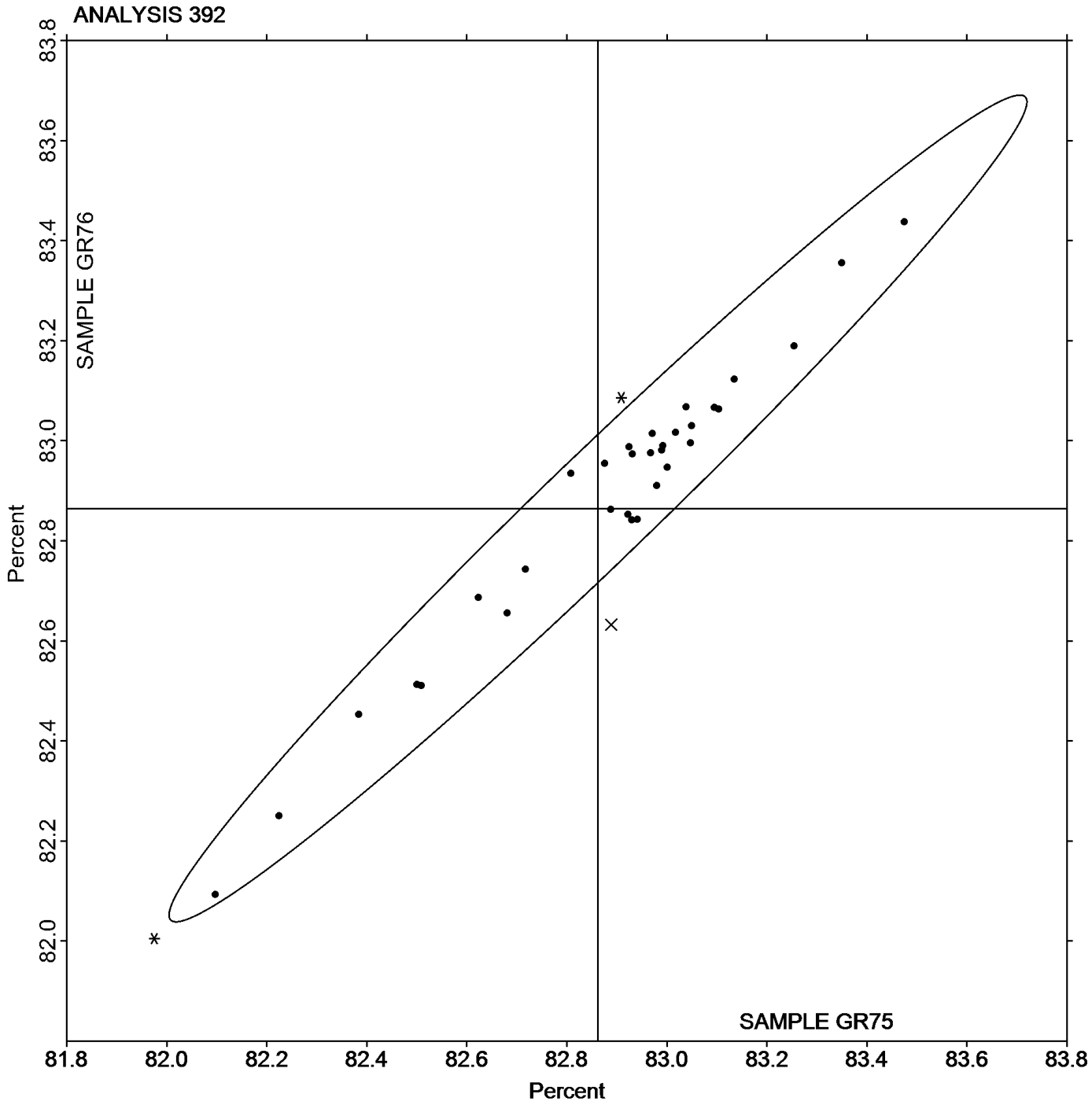
Paper & Paperboard Interlaboratory Testing Program

Analysis 392

Diffuse Brightness

Grand Mean Sample **GR75** = 82.862 Percent

Grand Mean Sample **GR76** = 82.865 Percent



Paper & Paperboard Interlaboratory Testing Program

Analysis 394

Fluorescent Component of Directional Brightness

WebCode	Data Flag	Sample GZ75 Lab Mean	Sample GZ75 Diff from Grand Mean	Sample GZ75 CPV	Sample GZ76 Lab Mean	Sample GZ76 Diff from Grand Mean	Sample GZ76 CPV	Instr Code
2A9C6Z	X	14.670	7.273	13.30	16.588	7.817	9.12	HT
2Z7QN2		7.002	-0.395	-0.72	8.348	-0.423	-0.49	TS
4BCUEF		7.652	0.255	0.47	8.990	0.219	0.26	TS
4P2JLY		7.106	-0.291	-0.53	8.302	-0.469	-0.55	TS
7DWDHB		6.516	-0.881	-1.61	7.840	-0.931	-1.09	TS
8QJ3TZ		7.384	-0.013	-0.02	8.676	-0.095	-0.11	TS
8YTDZ7	X	16.348	8.951	16.37	18.490	9.719	11.33	HT
9BLCB9		7.382	-0.015	-0.03	8.714	-0.057	-0.07	TS
B8EHL3		7.160	-0.237	-0.43	8.460	-0.311	-0.36	TT
GKWJHU	X	10.580	3.183	5.82	12.320	3.549	4.14	EF
NYEKFM		7.540	0.143	0.26	8.500	-0.271	-0.32	TT
PGBFAP		6.886	-0.511	-0.93	8.256	-0.515	-0.60	TS
PGTACK		8.516	1.119	2.05	9.848	1.077	1.26	GM
QRM8DP		7.632	0.235	0.43	8.890	0.119	0.14	PP
RR3U2X		7.316	-0.081	-0.15	8.624	-0.147	-0.17	TS
UJK7FU		7.038	-0.359	-0.66	8.226	-0.545	-0.64	TS
VZNTTE		7.448	0.051	0.09	8.838	0.067	0.08	TS
X7KLF7		7.128	-0.269	-0.49	8.306	-0.465	-0.54	TS
XKJKEV	*	8.640	1.243	2.27	11.520	2.749	3.21	TT

Summary Statistics

	Sample GZ75	Sample GZ76
Grand Means	7.3966 Percent	8.7711 Percent
SD Btwn Labs	0.5467 Percent	0.8576 Percent

Statistics based on 16 of 19 reporting participants

Comments on assigned Data Flags for Test #394

2A9C6Z (X) - Extreme data.

8YTDZ7 (X) - Extreme data.

GKWJHU (X) - Extreme data.

Instrument Code List as Reported by the Labs

(EF) - Datacolor Elrepho 3000

(GM) - Gretag Macbeth Color i5

(HT) - Hunter UltraScan Vis

(PP) - Technidyne Profile/Plus

(TS) - Technidyne Brightimeter Micro S-5

(TT) - Technidyne Brightimeter Micro S4-M

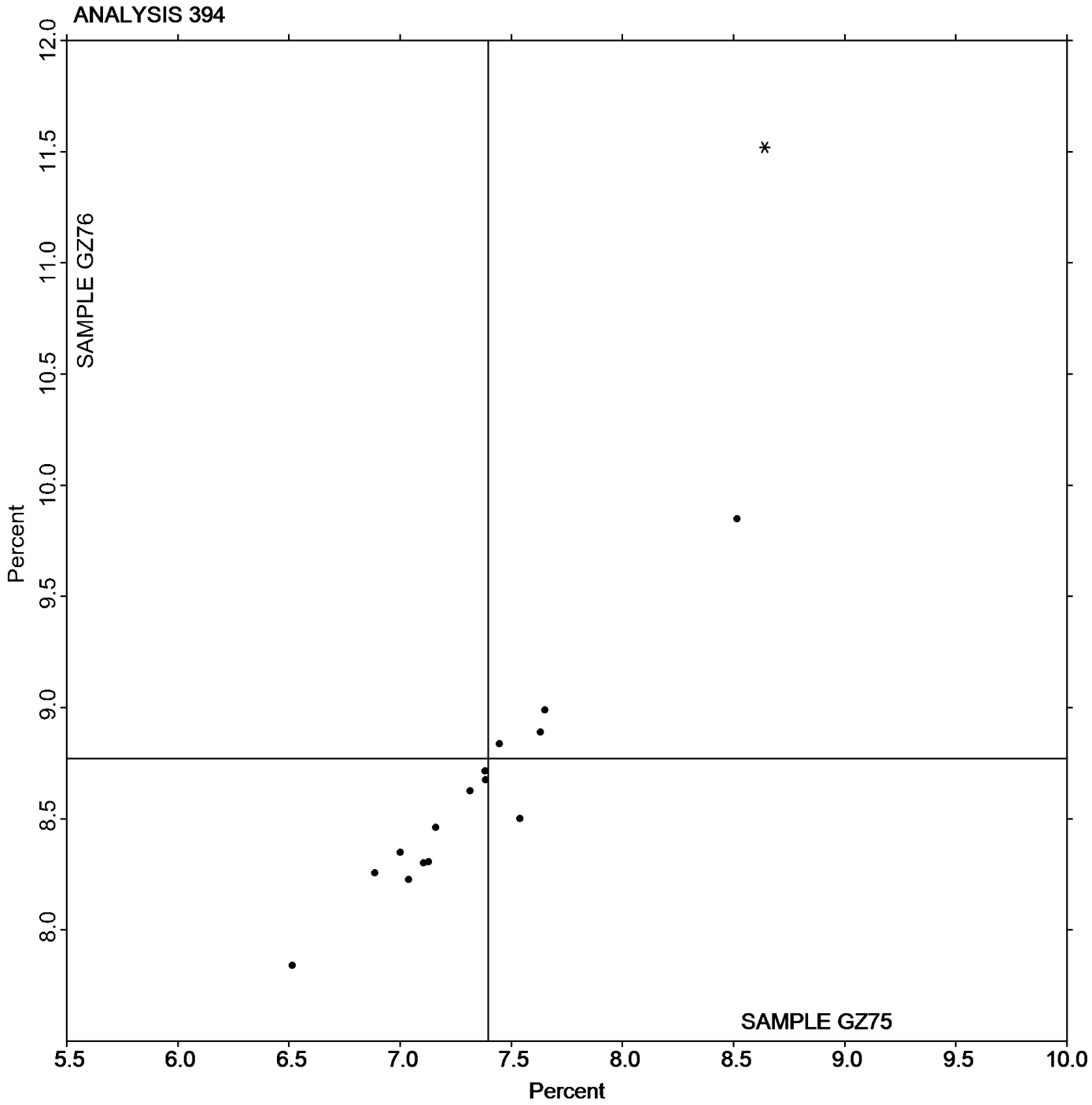
Paper & Paperboard Interlaboratory Testing Program

Analysis 394

Fluorescent Component of Directional Brightness

Grand Mean Sample **GZ75** = 7.3966 Percent

Grand Mean Sample **GZ76** = 8.7711 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 GT75 Lab Mean	Sample GT75 Diff from Grand Mean	Sample GT75 CPV	Sample GT76 Lab Mean	Sample GT76 Diff from Grand Mean	Sample GT76 CPV	Instr Code
2CVV9J		73.80	-1.62	-0.99	72.11	-0.01	-0.01	TG
4GLZ3Y		77.31	1.89	1.16	74.09	1.97	1.21	TH
4P2JLY		73.61	-1.81	-1.11	71.20	-0.92	-0.57	GM
6QMWBU		77.33	1.91	1.17	71.88	-0.24	-0.15	TH
722BTM		74.65	-0.77	-0.47	72.15	0.03	0.02	TG
8XGGU2		75.11	-0.31	-0.19	71.58	-0.54	-0.34	TH
9APUBT		76.37	0.95	0.58	72.40	0.28	0.17	TG
9D6BHC		75.19	-0.23	-0.14	72.29	0.17	0.10	XX
CX4RGQ		76.23	0.81	0.50	72.88	0.76	0.47	TH
GHDHLM		77.61	2.19	1.34	73.38	1.26	0.78	GS
KZFF8E		73.80	-1.62	-0.99	70.02	-2.10	-1.30	XX
NNFZYF		74.65	-0.77	-0.47	70.21	-1.91	-1.18	TH
NVUUQ4	*	71.64	-3.78	-2.32	72.15	0.03	0.02	GM
NYEKFM		75.34	-0.08	-0.05	74.92	2.80	1.73	TH
PUFM42		75.12	-0.30	-0.19	70.48	-1.64	-1.01	ZH
QMEJ29		76.78	1.36	0.83	75.18	3.06	1.89	TG
QRM8DP		74.47	-0.95	-0.58	70.73	-1.39	-0.86	PP
R8E9JV		76.40	0.97	0.60	70.57	-1.56	-0.96	TG
RBGZZ9		74.18	-1.24	-0.76	70.27	-1.85	-1.14	GM
RR3U2X		75.43	0.01	0.00	70.77	-1.35	-0.84	XX
UGUYZ4		75.60	0.18	0.11	70.20	-1.92	-1.19	GA
UJK7FU	X	70.28	-5.14	-3.15	65.75	-6.37	-3.93	TH
VBMNQA		75.97	0.55	0.34	73.49	1.37	0.84	TH
VL2MD7		74.11	-1.31	-0.80	72.82	0.70	0.43	TH
XKJKEV		79.43	4.01	2.46	75.19	3.07	1.89	HG

Summary Statistics

	Sample GT75	Sample GT76
Grand Means	75.422 Gloss Units	72.123 Gloss Units
SD Btwn Labs	1.631 Gloss Units	1.620 Gloss Units

Statistics based on 24 of 25 reporting participants

Comments on assigned Data Flags for Test #395

UJK7FU (X) - Systematic error (data for both samples are low).

Instrument Code List as Reported by the Labs

(GA) - BYK-Gardner (model not specified)

(GM) - BYK-Gardner micro-gloss

(GS) - BYK-Gardner Glossgard II

(HG) - Hunter ProGloss 75

(PP) - Technidyne Profile/Plus

(TG) - Technidyne T480

(TH) - Technidyne T480A

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

(ZH) - Zehntner ZLR 1050

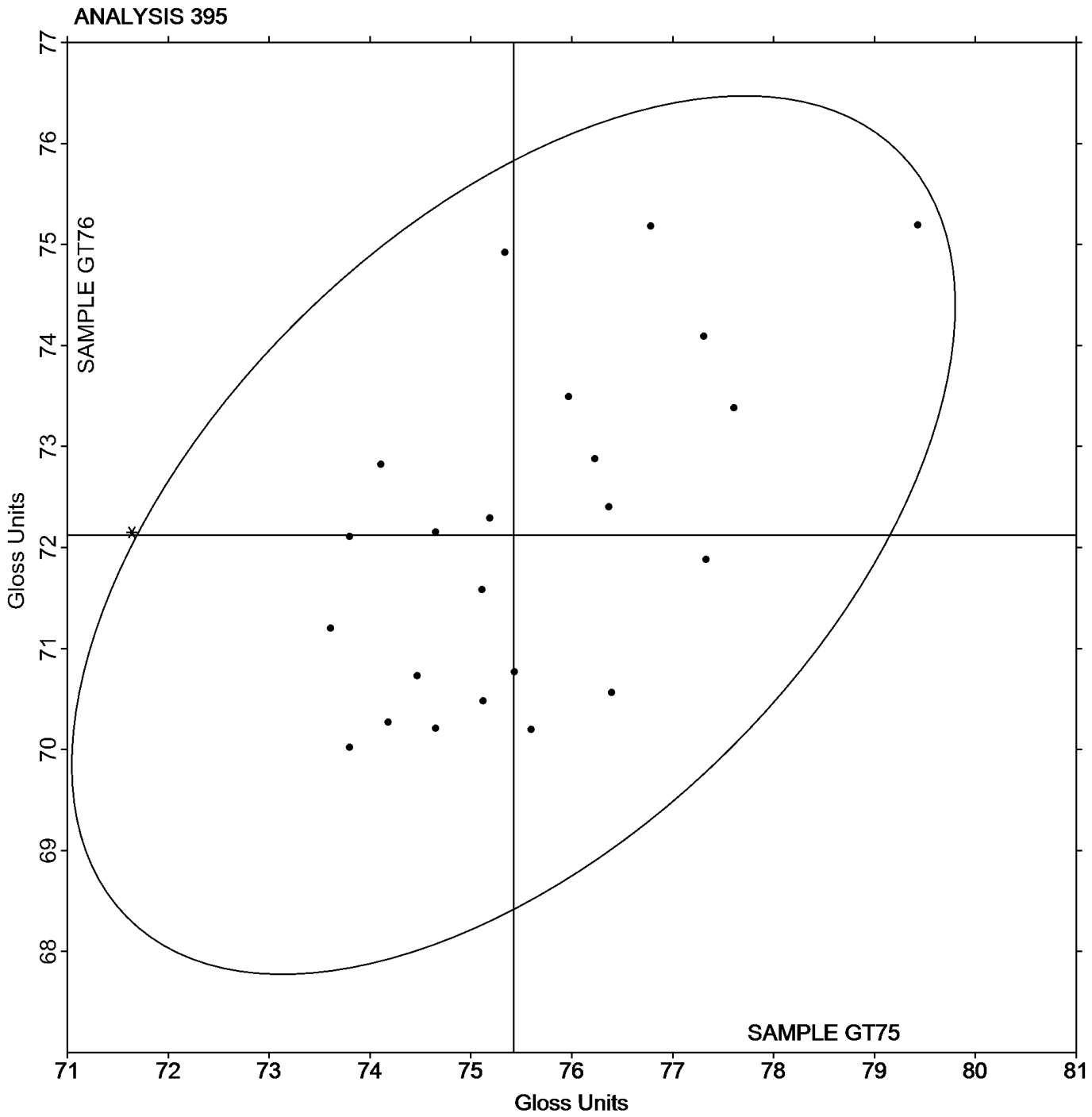
Paper & Paperboard Interlaboratory Testing Program

Analysis 395

Specular Gloss at 75 Degrees - High Range

Grand Mean Sample **GT75** = 75.422 Gloss Units

Grand Mean Sample **GT76** = 72.123 Gloss Units



Paper & Paperboard Interlaboratory Testing Program

Analysis 396

Specular Gloss at 75 Degrees - Low Range

WebCode	Data Flag	Sample GU75 Lab Mean	Sample GU75 Diff from Grand Mean	Sample GU75 CPV	Sample GU76 Lab Mean	Sample GU76 Diff from Grand Mean	Sample GU76 CPV	Instr Code
32EJG7		28.93	1.28	1.25	42.69	2.35	1.60	TH
4P2JLY		25.71	-1.94	-1.89	39.84	-0.50	-0.34	GM
6QMWBU		27.14	-0.51	-0.50	40.33	-0.01	-0.01	TH
DNRUBY		28.02	0.37	0.36	40.81	0.47	0.32	TH
DXV87T		26.92	-0.73	-0.71	39.68	-0.66	-0.45	TG
GKF6D7		25.87	-1.78	-1.73	37.48	-2.86	-1.95	WG
GKWJHU		28.13	0.48	0.47	40.43	0.09	0.06	TG
KZFF8E		27.02	-0.63	-0.61	39.42	-0.92	-0.63	GM
NT9YDB		28.01	0.36	0.35	39.82	-0.52	-0.36	HN
QMEJ29		28.14	0.49	0.48	42.99	2.64	1.80	TG
R8E9JV		28.83	1.18	1.14	41.86	1.51	1.03	XX
RK7QKF		28.46	0.81	0.79	40.92	0.58	0.39	TG
TYJGY9		27.27	-0.38	-0.37	39.68	-0.66	-0.45	PP
XZEZGB		28.66	1.01	0.98	38.86	-1.48	-1.01	XX

Summary Statistics

	Sample GU75	Sample GU76
Grand Means	27.650 Gloss Units	40.343 Gloss Units
SD Btwn Labs	1.026 Gloss Units	1.468 Gloss Units

Statistics based on 14 of 14 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

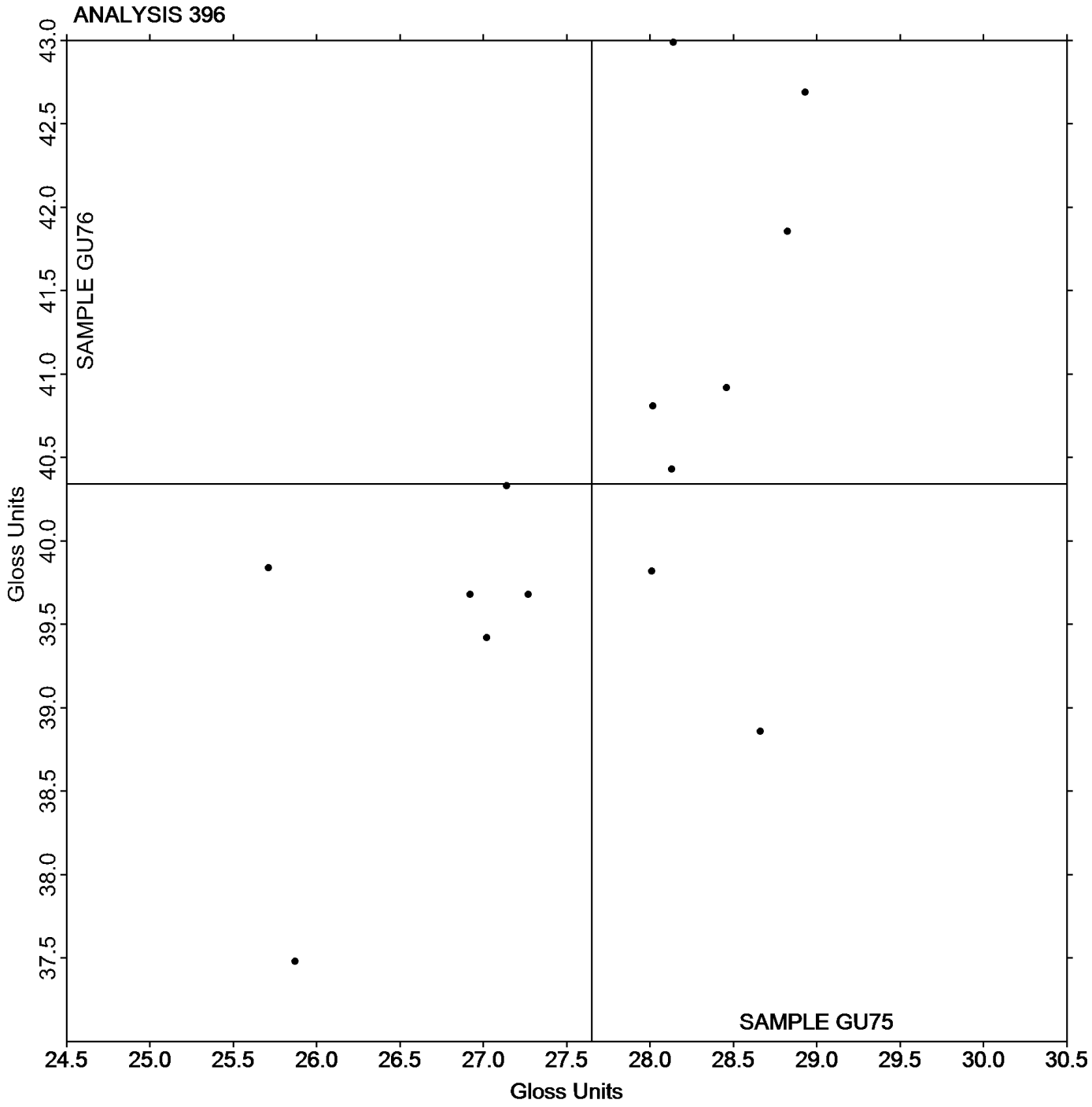
Paper & Paperboard Interlaboratory Testing Program

Analysis 396

Specular Gloss at 75 Degrees - Low Range

Grand Mean Sample **GU75** = 27.650 Gloss Units

Grand Mean Sample **GU76** = 40.343 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 GW75 Lab Mean	Sample GW75 Diff from Grand Mean	Sample GW75 CPV	Sample GW76 Lab Mean	Sample GW76 Diff from Grand Mean	Sample GW76 CPV
2A9C6Z		71.70	-0.52	-1.14	85.36	-0.60	-1.09
2TMMED		72.89	0.67	1.47	86.62	0.66	1.19
43HLVA	X	73.45	1.23	2.70	88.42	2.46	4.45
4HFNJA		72.06	-0.16	-0.35	85.71	-0.25	-0.46
6QMWBU		72.02	-0.20	-0.44	85.74	-0.23	-0.41
8H2HLU		72.40	0.18	0.40	85.72	-0.24	-0.44
8H7ZLE		72.19	-0.03	-0.07	86.18	0.22	0.40
8YTDZ7		71.28	-0.94	-2.06	85.26	-0.70	-1.27
94GKVJ	X	93.72	21.50	47.25	111.01	25.05	45.35
9D6BHC	X	5.80	-66.42	-145.97	6.91	-79.05	-143.11
9JWLRA		72.19	-0.02	-0.05	85.72	-0.25	-0.44
9LKXQF		72.16	-0.06	-0.13	86.14	0.18	0.32
AJQNYQ		72.28	0.06	0.12	85.79	-0.18	-0.32
CGTW2A		72.71	0.49	1.07	86.30	0.34	0.61
CYEHJF		72.94	0.72	1.58	86.91	0.95	1.72
DNRUBY		72.80	0.58	1.28	87.10	1.14	2.06
GKWJHU		72.70	0.48	1.06	86.60	0.64	1.15
H9KE8T		72.50	0.28	0.62	85.71	-0.25	-0.46
HTQYQY		72.18	-0.04	-0.08	86.03	0.06	0.12
J4ME73		72.57	0.35	0.77	86.72	0.76	1.37
JUZ46M		71.87	-0.35	-0.76	85.22	-0.74	-1.34
KHH92T		72.32	0.10	0.22	85.83	-0.14	-0.24
KZFF8E		71.12	-1.10	-2.41	84.88	-1.08	-1.96
MJ4GGM		72.64	0.42	0.93	86.38	0.42	0.76
NMYPZM		72.36	0.14	0.31	85.62	-0.34	-0.62
NT9YDB	X	72.30	0.08	0.18	86.54	0.57	1.04
PGBFAP		72.06	-0.16	-0.35	85.97	0.00	0.01
PGTACK		72.19	-0.03	-0.06	85.65	-0.32	-0.57
REELPQ		72.04	-0.18	-0.39	85.64	-0.32	-0.58
RWXN2K		72.12	-0.10	-0.23	86.25	0.29	0.52
U4MU8Q		72.26	0.05	0.10	86.68	0.72	1.30
U8NWWR		72.43	0.21	0.47	86.03	0.07	0.12
UTTHWX	*	71.04	-1.18	-2.60	84.59	-1.38	-2.49
VP799H		71.88	-0.33	-0.73	85.63	-0.33	-0.61
W8FWPM		72.48	0.27	0.58	86.19	0.22	0.41
WE67KE		72.78	0.56	1.23	86.28	0.31	0.57
XZD6X6		72.00	-0.22	-0.48	86.24	0.28	0.50
XZEZGB		72.27	0.05	0.12	86.05	0.09	0.16

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

Summary Statistics

	Sample GW75	Sample GW76
Grand Means	72.218 g/sq m	85.962 g/sq m
SD Btwn Labs	0.455 g/sq m	0.552 g/sq m

Statistics based on 34 of 38 reporting participants

Comments on assigned Data Flags for Test #398

43HLVA (X) - Extreme data.

94GKVJ (X) - Extreme data.

9D6BHC (X) - Extreme data.

NT9YDB (X) - Data converted from basis weight to grammage by CTS (x 3.7597).

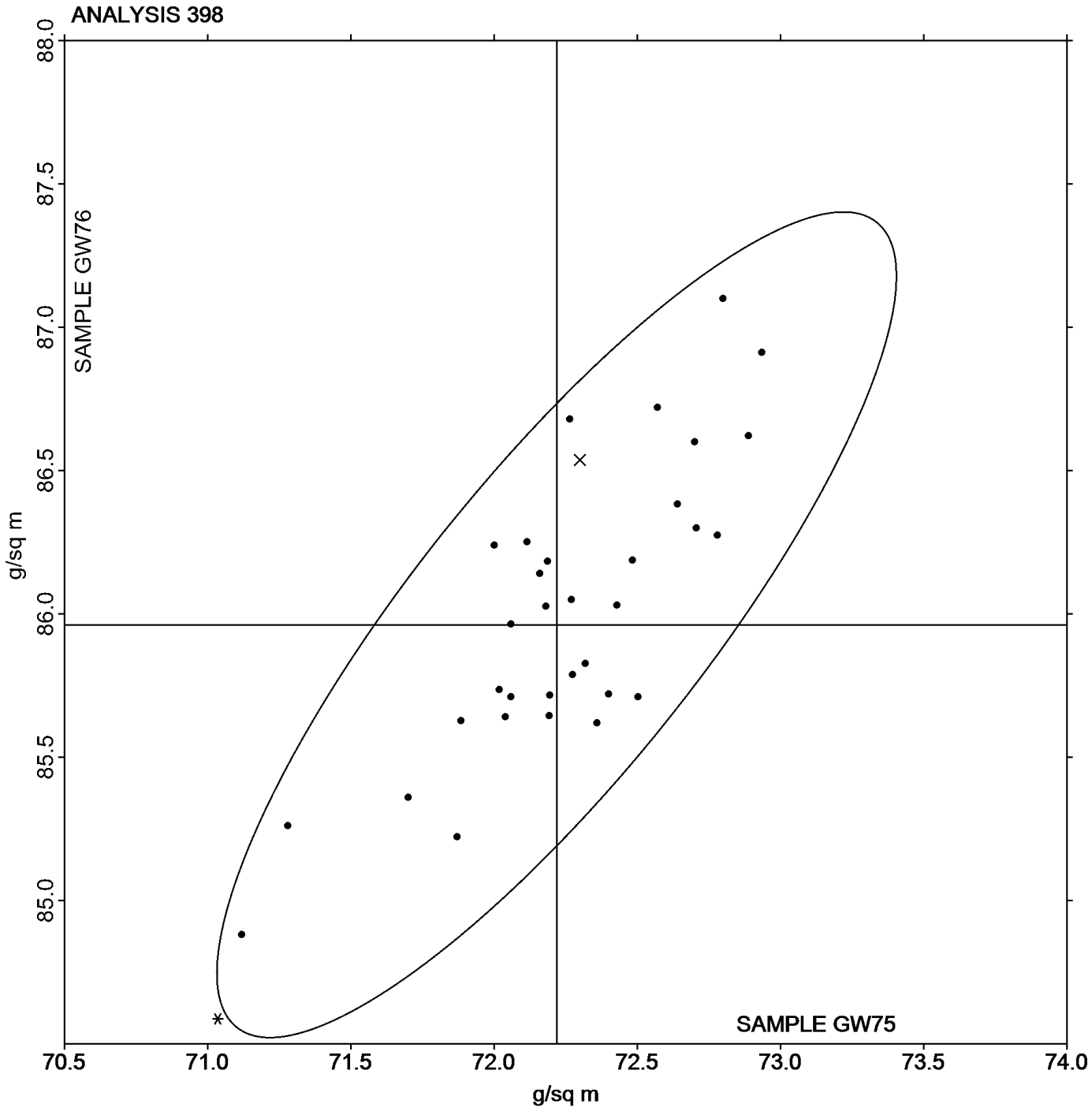
Paper & Paperboard Interlaboratory Testing Program

Analysis 398

Grammage (Mass per Unit Area)

Grand Mean Sample **GW75** = 72.218 g/sq m

Grand Mean Sample **GW76** = 85.962 g/sq m



Paper & Paperboard Interlaboratory Testing Program

Analysis 399

Sizing Test (Hercules Type)

WebCode	Data Flag	Sample GX75 Lab Mean	Sample GX75 Diff from Grand Mean	Sample GX75 CPV	Sample GX76 Lab Mean	Sample GX76 Diff from Grand Mean	Sample GX76 CPV
32EJG7	X	93.00	46.62	2.99	69.10	31.38	2.72
3FBNYC		38.46	-7.92	-0.51	31.20	-6.52	-0.57
44JAL2		45.50	-0.88	-0.06	36.68	-1.04	-0.09
4BCUEF		61.70	15.32	0.98	50.30	12.58	1.09
4P2JLY		52.62	6.24	0.40	38.94	1.22	0.11
77GU2W		72.90	26.52	1.70	57.84	20.12	1.75
8XGGU2		32.45	-13.93	-0.89	27.84	-9.88	-0.86
96DNX8		65.46	19.08	1.22	54.27	16.55	1.44
9APUBT		35.39	-10.99	-0.70	28.04	-9.68	-0.84
B8EHL3		48.02	1.64	0.11	39.55	1.83	0.16
CDDD6M		42.38	-4.00	-0.26	34.13	-3.59	-0.31
DQ2YNM		42.15	-4.23	-0.27	30.25	-7.47	-0.65
EDAL2B		36.77	-9.61	-0.62	29.20	-8.52	-0.74
KZFF8E		53.50	7.12	0.46	40.60	2.88	0.25
PGBFAP		38.90	-7.48	-0.48	29.10	-8.62	-0.75
PGTACK		34.93	-11.45	-0.73	34.29	-3.43	-0.30
QJTYUJ		37.49	-8.89	-0.57	28.18	-9.54	-0.83
QP36LJ		54.77	8.39	0.54	41.91	4.19	0.36
RBGZZ9		33.70	-12.68	-0.81	32.50	-5.22	-0.45
RCBX49		65.46	19.08	1.22	44.76	7.04	0.61
RK7QKF		34.67	-11.71	-0.75	26.67	-11.05	-0.96
RXCTXW		62.06	15.68	1.01	47.84	10.12	0.88
TYJGY9		26.53	-19.85	-1.27	23.95	-13.77	-1.20
U2ZA48	X	134.85	88.47	5.68	129.25	91.53	7.95
U63DU9		25.00	-21.38	-1.37	19.18	-18.54	-1.61
VEQJBD		30.94	-15.44	-0.99	29.52	-8.20	-0.71
VL2MD7		39.81	-6.56	-0.42	29.52	-8.20	-0.71
VYT6C6		83.59	37.21	2.39	66.07	28.35	2.46
VZNTTE		29.74	-16.64	-1.07	30.53	-7.19	-0.62
WE67KE	*	29.30	-17.08	-1.10	35.80	-1.92	-0.17
X7KLF7		37.23	-9.15	-0.59	30.80	-6.92	-0.60
XBTUWA		50.83	4.45	0.29	44.52	6.80	0.59
XKJKEV		70.74	24.36	1.56	51.02	13.30	1.15
YGY4M3		71.04	24.66	1.58	62.09	24.37	2.12

Summary Statistics

	Sample GX75	Sample GX76
Grand Means	46.376 Seconds	37.722 Seconds
SD Btwn Labs	15.590 Seconds	11.520 Seconds

Statistics based on 32 of 34 reporting participants

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

Comments on assigned Data Flags for Test #399

32EJG7 (X) - Systematic error (data for both samples are high).

U2ZA48 (X) - Extreme data.

Paper & Paperboard Interlaboratory Testing Program

Analysis 399

Sizing Test (Hercules Type)

Grand Mean Sample **GX75** = 46.376 Seconds

Grand Mean Sample **GX76** = 37.722 Seconds