Collaborative Testing Services, Inc.

Rubber Interlaboratory Testing Program

Summary Report #220- 2nd Qtr 2024

About the Rubber Program, About CTS

Key for Web Summary Report

Analysis	Analysis Name
605	Tensile Strength: Precured Rubber Samples
606	Ultimate Elongation: Precured Rubber Samples
607	Stress at 300% Elongation: Precured Samples
608	Stress at 100% Elongation: Precured Samples
620	Hardness (Type A): Precured Rubber Samples
621	Density: Precured Rubber Samples @ 25C
625	Hardness (Shore D/Type D)
630	Tensile Strength: Participant-Cured Rubber
631	Ultimate Elongation: Participant-Cured Samples
632	Tensile Stress at 300% Elongation: Lab-Cured
633	Tensile Stress at 100% Elongation: Lab-Cured
635	Compression Set
640	O-Ring Tensile Strength at Break
641	O-Ring Ultimate Elongation
642	O-Ring Stress at 100% Elongation
647	O-Ring Hardness (Shore A/Type A)
648	O-Ring Hardness (Shore M)
649	O-Ring Density
650	O-Ring Compression Set
660	Mooney Viscosity (4-minute readings)
661	Mooney Viscosity (8-minute butyl readings)
662	Mooney Stress Relaxation: t80
663	Mooney Stress Relaxation: X30
664	Mooney Stress Relaxation: Area under curve
684	MDR Vulcanization Charac.: Cure Time 10%
685	MDR Vulcanization Charac.: Scorch Time, Ts1
686	MDR Vulcanization Charac.: Cure Time 50%
687	MDR Vulcanization Charac.: Cure Time 90%
688	MDR Vulcanization Charac.: Minimum Torque

Analysis	Analysis Name
689	MDR Vulcanization Charac.: Maximum Torque
690	RPA Rheological Properties: Part A - G′ at 20Hz
691	RPA Rheological Properties: Part A - G″ at 20Hz
695	RPA Rheological Properties: Part B - G′ at 1.0Hz
696	RPA Rheological Properties: Part B - G″ at 1.0Hz

ABOUT THE PROGRAM

The Collaborative Reference Program for RUBBER, which was initiated in 1969, is operated and maintained by Collaborative Testing Services, Inc. (CTS), with technical guidance provided by the Rubber Division of the American Chemical Society. The program allows laboratories to compare periodically the level and uniformity of their testing with that of other participating laboratories. It also provides a realistic assessment of the state of rubber testing proficiency.

For each test there are summary statistics and a graphical representation of the data. Also shown are notes concerning specific laboratory results, as well as significant findings related to instrument types or other testing variations. Please refer to the section KEY TO TABLES AND GRAPHS for an explanation of terms and guidelines to interpreting the results.

ABOUT CTS

Founded in 1971, CTS is a privately-owned company that specializes in interlaboratory tests for a wide variety of industries including rubber, plastics, fasteners and metals, containerboard, paper and color, wine, and hemp, as well as proficiency tests for forensic laboratories. All of the tests are designed to assist organizations in achieving and maintaining quality control objectives. Labs from the U.S., as well as more than 100 countries, currently participate in CTS programs.

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Key for Web Summary Report (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 Rubber Report published on the CTS Web site. The WebCode for each analysis can be found in the Performance Analysis Report mailed to each participant.

Lab Mean — Tensile & Hardness: the average of the median values obtained for each sample. All other tests: the average of the test results obtained 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.

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 — If instruments are tracked in a test, a code indicating the manufacturer of the instrument used to perform the test (see separate INSTRUMENT CODE LIST for each test section).

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. However, a lab receiving two of more M flags for a test may need to stop and review its testing procedures.

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 above.

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 data usually vary by more than three standard deviations from the grand mean.) 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.

5. ***Data appeared to be off by a factor of # and was corrected by CTS*** - In tests that involve computations, the results reported to CTS may be off by a factor. If this factor can easily be determined, CTS may correct the data and flag the participant. Occasionally CTS will correct a laboratory's results even though the data are still high or low when compared to the other participants. This is done so that the laboratory may be alerted to other possible errors in its testing procedure.

6. ***Data for two samples (or two tests) appeared to be switched by the lab, and the error was corrected by CTS.***

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.

WebCode	Data Flag	Sample B41-B42 Lab Mean	Sample B41-B42 Diff from Grand Mean	Sample B41-B42 CPV	Sample B43-B44 Lab Mean	Sample B43-B44 Diff from Grand Mean	Sample B43-B44 CPV
2CUYZ9		3,170.0	-31.7	-0.18	3,215.0	28.2	0.17
3FBNYC		3,294.5	92.8	0.53	3,257.5	70.7	0.42
3RRDXG	X	2,248.1	-953.6	-5.48	2,248.1	-938.7	-5.58
472QJ8	*	2,699.2	-502.5	-2.89	2,749.5	-437.3	-2.60
4BVM8D	X	3,208.3	6.6	0.04	3,762.3	575.5	3.42
4QQWXP		3,450.7	249.0	1.43	3,481.2	294.4	1.75
4U94DC		3,135.0	-66.7	-0.38	3,161.9	-25.0	-0.15
6XKNJN		3,169.5	-32.2	-0.19	3,180.0	-6.8	-0.04
7ATPV9		3,344.0	142.3	0.82	3,340.5	153.7	0.91
838ZP6		3,204.6	2.9	0.02	3,207.5	20.7	0.12
843JR7		3,092.5	-109.2	-0.63	2,910.0	-276.8	-1.64
9833D6		3,412.0	210.3	1.21	3,254.5	67.7	0.40
9UD6AL		3,235.1	33.4	0.19	3,185.8	-1.0	-0.01
ACR4UA		3,336.2	134.5	0.77	3,322.7	135.9	0.81
AJ6YQ4		3,146.5	-55.2	-0.32	3,151.0	-35.8	-0.21
BWV786	*	2,881.2	-320.5	-1.84	3,137.2	-49.6	-0.29
D7NDVY		3,415.7	214.0	1.23	3,386.7	199.9	1.19
DCVX36		3,382.3	180.6	1.04	3,242.3	55.5	0.33
DFXVDX		3,525.0	323.3	1.86	3,405.0	218.2	1.30
E7MURW		3,137.0	-64.7	-0.37	3,142.0	-44.8	-0.27
EHCZEZ		3,156.0	-45.7	-0.26	3,109.0	-77.8	-0.46
EZJP2Y		3,373.0	171.3	0.98	3,318.0	131.2	0.78
EZWQDY		3,169.0	-32.7	-0.19	3,166.8	-20.1	-0.12
GKGX9T		3,245.0	43.3	0.25	3,210.0	23.2	0.14
GNFHPX		3,454.5	252.8	1.45	3,468.6	281.8	1.67
HGCUWW		3,075.0	-126.7	-0.73	2,960.0	-226.8	-1.35
HH8CXX		3,172.0	-29.7	-0.17	3,236.5	49.7	0.30
HRBPUR		3,367.2	165.5	0.95	3,265.2	78.4	0.47
J4KJMW		3,161.9	-39.8	-0.23	3,082.1	-104.7	-0.62
JH2NMX		2,870.0	-331.7	-1.91	2,895.0	-291.8	-1.73
JR8MHT		3,202.5	0.8	0.00	3,248.1	61.3	0.36
K2EJ2P		3,193.0	-8.7	-0.05	3,079.0	-107.8	-0.64
K69KVR		3,046.5	-155.2	-0.89	3,234.0	47.2	0.28
K9BGNR		3,133.6	-68.1	-0.39	2,999.4	-187.4	-1.11
K9QM2W		2,951.5	-250.2	-1.44	2,921.8	-265.0	-1.57
KA7YQU		3,146.0	-55.7	-0.32	3,079.0	-107.8	-0.64
KDJLFR		3,074.3	-127.4	-0.73	3,084.6	-102.2	-0.61
KJUT3Q		3,379.4	177.7	1.02	3,419.3	232.5	1.38

WebCode	Data Flag	Sample B41-B42 Lab Mean	Diff from Grand Mean	CPV	Sample B43-B44 Lab Mean	Diff from Grand Mean	CPV
MDXUHR		3,247.4	45.7	0.26	3,214.1	27.3	0.16
MPB8JT		3,226.8	25.1	0.14	3,250.2	63.4	0.38
MXLA6T		3,284.1	82.4	0.47	3,221.7	34.9	0.21
PD8JWN		3,268.0	66.3	0.38	3,222.0	35.2	0.21
PMHT8N		3,230.0	28.3	0.16	3,215.0	28.2	0.17
PVRAVM		3,149.9	-51.8	-0.30	3,139.3	-47.5	-0.28
PWHLET		3,297.0	95.3	0.55	3,323.5	136.7	0.81
PWMTWN		3,111.0	-90.7	-0.52	3,192.5	5.7	0.03
PXYH7T		3,307.0	105.3	0.61	3,280.5	93.7	0.56
QK33BN		3,314.0	112.3	0.65	3,331.5	144.7	0.86
QLXLDP	*	2,734.5	-467.2	-2.69	2,668.5	-518.3	-3.08
QUW29P	*	3,065.0	-136.7	-0.79	3,376.0	189.2	1.12
QZG9MN		3,378.9	177.2	1.02	3,352.1	165.3	0.98
R8A28M	*	3,539.0	337.3	1.94	3,248.9	62.1	0.37
RD3WFL		3,155.0	-46.7	-0.27	3,334.5	147.7	0.88
RNVJ2N		3,138.0	-63.7	-0.37	3,196.5	9.7	0.06
RRZ3AG		2,830.8	-370.9	-2.13	2,786.7	-400.1	-2.38
RVMMEL		3,167.0	-34.7	-0.20	3,062.0	-124.8	-0.74
TKHWBP		2,922.9	-278.8	-1.60	2,901.6	-285.3	-1.70
TKXFVM		3,210.8	9.1	0.05	3,201.3	14.4	0.09
X9RUWD	X	2,726.0	-475.7	-2.73	2,542.0	-644.8	-3.83
XJM3EF		3,218.5	16.8	0.10	3,047.0	-139.8	-0.83
XKHKGG		3,375.0	173.3	1.00	3,269.5	82.7	0.49
XQRQ9G	M	3,021.0	-180.7	-1.04	3,158.5	-28.3	-0.17
XY2ELF		3,415.7	214.0	1.23	3,357.7	170.8	1.02
YL97MD		3,236.5	34.9	0.20	3,116.2	-70.6	-0.42
YRHCED		3,289.5	87.8	0.50	3,339.5	152.7	0.91
Z4KALA		3,139.4	-62.3	-0.36	3,119.1	-67.7	-0.40
ZBTEWH		3,242.5	40.8	0.23	3,104.5	-82.3	-0.49
ZCVJ4B	*	3,023.5	-178.2	-1.02	3,335.5	148.7	0.88
ZJ33BG		3,391.4	189.7	1.09	3,428.4	241.6	1.44

Summary Statistics

	Sample B41-B42	Sample B43-B44
Grand Means	3,201.69 psi	3,186.80 psi
Stnd Dev Btwn Labs	173.93 psi	168.29 psi

Statistics based on 65 of 69 reporting participants

Summary Statistics in SI Units		
Grand Means	22.075 MPa	21.970 MPa
Stnd Dev Btwn Labs	1.199 MPa	1.160 MPa
		Statistics based on 65 of 69 reporting participants

Samples B41-B42: Polyisoprene Compound & B43-B44: Polyisoprene Compound

Comments on Assigned Data Flags for Test #605

3RRDXG (X) - Data for all samples are low. Possible Systematic Error.

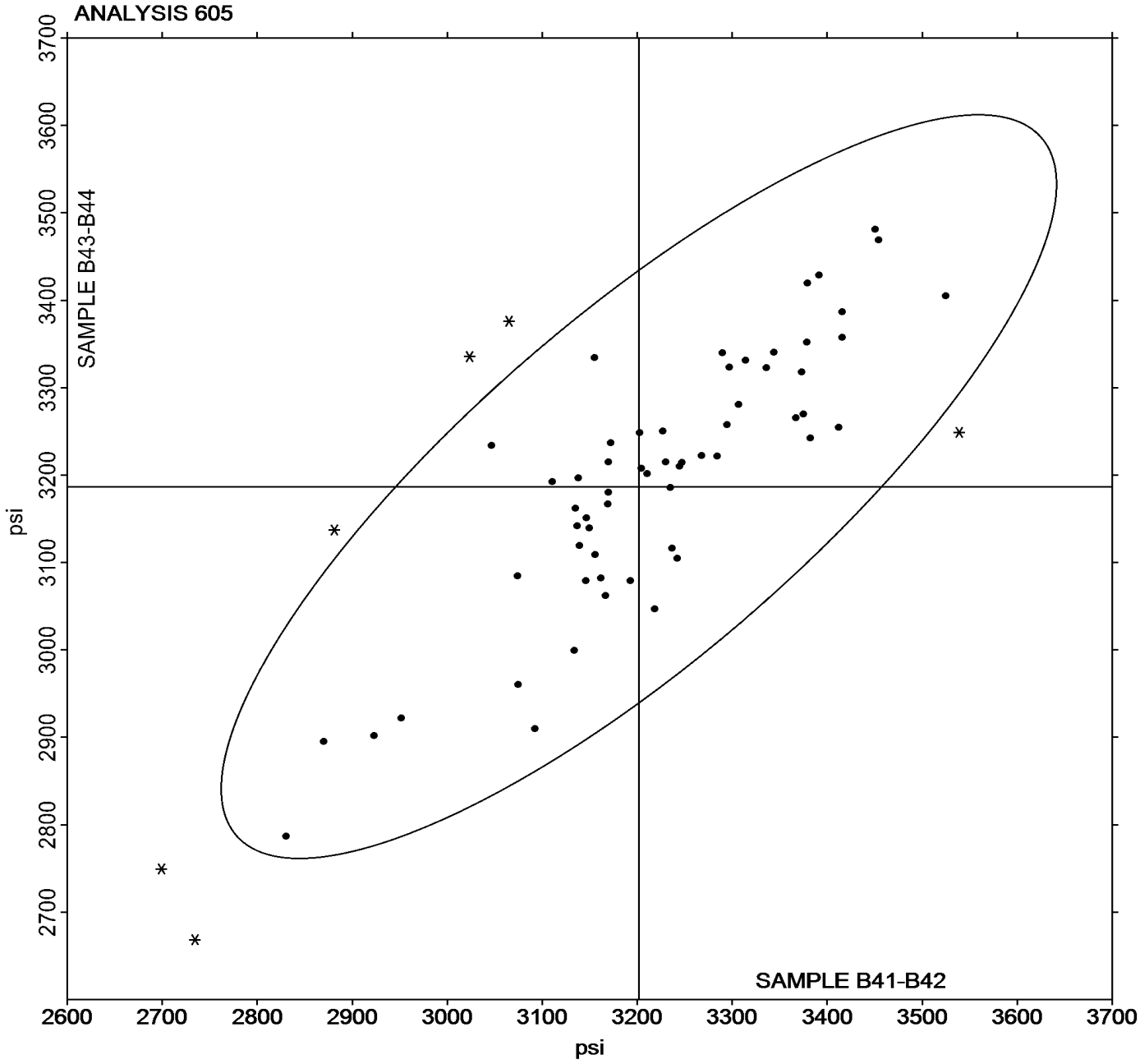
4BVM8D (X) - Data for sample group B43-B44 are high. Inconsistent within the determinations of sample group B41-B42.

X9RUWD (X) - Data for sample group B43-B44 are low.

XQRQ9G (M) - Data not reported for sample group B41.

Grand Mean Sample **B41-B42** = 3,201.69 psi

Grand Mean Sample **B43-B44** = 3,186.80 psi



WebCode	Data Flag	Sample B41-B42 Lab Mean	Diff from Grand Mean	CPV	Sample B43-B44 Lab Mean	Diff from Grand Mean	CPV
2CUYZ9		597.5	11.6	0.35	593.5	8.1	0.28
3FBNYC		546.5	-39.4	-1.17	541.0	-44.4	-1.51
3RRDXG	X	509.5	-76.4	-2.28	553.0	-32.4	-1.11
472QJ8		513.2	-72.6	-2.16	530.7	-54.7	-1.87
4BVM8D		593.5	7.6	0.23	601.3	15.8	0.54
4QQWXP		595.4	9.6	0.28	611.7	26.3	0.90
4U94DC		612.8	26.9	0.80	601.1	15.7	0.53
6XKNJN		594.5	8.6	0.26	600.0	14.6	0.50
7ATPV9		613.0	27.1	0.81	617.5	32.1	1.09
838ZP6		612.0	26.1	0.78	613.5	28.1	0.96
843JR7	*	679.5	93.6	2.79	651.0	65.6	2.24
9833D6		581.5	-4.4	-0.13	562.5	-22.9	-0.78
9UD6AL		576.0	-9.9	-0.29	571.0	-14.4	-0.49
ACR4UA		597.5	11.7	0.35	582.2	-3.2	-0.11
AJ6YQ4		534.5	-51.4	-1.53	533.0	-52.4	-1.79
BWV786		556.8	-29.1	-0.87	559.3	-26.1	-0.89
D7NDVY		614.5	28.6	0.85	608.0	22.6	0.77
DCVX36		586.5	0.6	0.02	571.0	-14.4	-0.49
DFXVDX	*	654.5	68.6	2.05	660.0	74.6	2.54
E7MURW		547.0	-38.9	-1.16	544.5	-40.9	-1.40
EHCZEZ		616.8	31.0	0.92	595.9	10.5	0.36
EZJP2Y		627.5	41.6	1.24	609.0	23.6	0.80
EZWQDY		529.8	-56.1	-1.67	553.4	-32.0	-1.09
GKGX9T		620.0	34.1	1.02	625.0	39.6	1.35
GNFHPX		588.7	2.8	0.08	574.9	-10.5	-0.36
HGCUWW	X	913.0	327.1	9.75	924.5	339.1	11.56
HH8CXX	X	613.0	27.1	0.81	694.5	109.1	3.72
HRBPUR		598.4	12.6	0.37	589.3	3.8	0.13
J4KJMW		586.8	0.9	0.03	587.6	2.1	0.07
JH2NMX	X	480.5	-105.4	-3.14	476.0	-109.4	-3.73
JR8MHT		561.0	-24.9	-0.74	572.5	-12.9	-0.44
K2EJ2P		567.0	-18.9	-0.56	575.0	-10.4	-0.36
K69KVR		613.0	27.1	0.81	611.5	26.1	0.89
K9BGNR		574.1	-11.8	-0.35	570.0	-15.4	-0.53
K9QM2W		528.9	-56.9	-1.70	546.3	-39.1	-1.33
KA7YQU		590.5	4.6	0.14	584.0	-1.4	-0.05
KDJLFR		613.7	27.8	0.83	611.6	26.2	0.89
KJUT3Q		600.1	14.2	0.42	610.3	24.9	0.85

WebCode	Data Flag	Sample B41-B42 Lab Mean	Diff from Grand Mean	CPV	Sample B43-B44 Lab Mean	Diff from Grand Mean	CPV
MPB8JT		600.1	14.2	0.42	595.9	10.5	0.36
MXLA6T		617.8	31.9	0.95	630.9	45.5	1.55
PD8JWN		607.5	21.6	0.64	600.5	15.1	0.51
PMHT8N		585.0	-0.9	-0.03	585.0	-0.4	-0.01
PVRAVM		565.1	-20.8	-0.62	573.8	-11.7	-0.40
PWHLET		606.5	20.6	0.61	609.0	23.6	0.80
PWMTWN		522.5	-63.4	-1.89	548.5	-36.9	-1.26
PXYH7T		573.2	-12.6	-0.38	571.6	-13.9	-0.47
QK33BN		607.9	22.0	0.66	601.0	15.6	0.53
QLXLDP		549.5	-36.4	-1.08	560.8	-24.7	-0.84
QUW29P		567.5	-18.4	-0.55	584.0	-1.4	-0.05
QZG9MN		536.4	-49.5	-1.48	539.1	-46.3	-1.58
R8A28M		581.5	-4.4	-0.13	576.5	-8.9	-0.30
RD3WFL		573.0	-12.9	-0.38	579.0	-6.4	-0.22
RRZ3AG		532.1	-53.8	-1.60	537.9	-47.5	-1.62
RVMMEL	X	522.0	-63.9	-1.90	729.5	144.1	4.91
TKHWBP		539.4	-46.5	-1.39	547.2	-38.2	-1.30
TKXFVM		602.0	16.1	0.48	583.5	-1.9	-0.07
X9RUWD		537.5	-48.4	-1.44	533.0	-52.4	-1.79
XJM3EF		615.0	29.1	0.87	591.0	5.6	0.19
XKHKGG		611.5	25.6	0.76	605.5	20.1	0.68
XQRQ9G	M	563.0	-22.9	-0.68	558.5	-26.9	-0.92
XY2ELF		578.5	-7.4	-0.22	575.5	-9.9	-0.34
YL97MD		624.5	38.6	1.15	621.0	35.6	1.21
YRHCED		553.5	-32.4	-0.96	562.0	-23.4	-0.80
Z4KALA		596.0	10.1	0.30	585.5	0.1	0.00
ZBTEWH		617.0	31.1	0.93	614.0	28.6	0.97
ZCVJ4B		598.0	12.1	0.36	601.5	16.1	0.55
ZJ33BG		616.9	31.0	0.93	628.5	43.1	1.47

Summary Statistics

	Sample B41-B42	Sample B43-B44
Grand Means	585.88 percent	585.42 percent
Stnd Dev Btwn Labs	33.56 percent	29.33 percent

Statistics based on 61 of 67 reporting participants

Samples B41-B42: Polyisoprene Compound & B43-B44: Polyisoprene Compound

Comments on Assigned Data Flags for Test #606

3RRDXG (X) - Inconsistent in testing between samples.

HGCUWW (X) - Data for all Samples are high.

HH8CXX (X) - Data for sample group B43-B44 are high. Inconsistent within the determinations of sample group B41-B42.

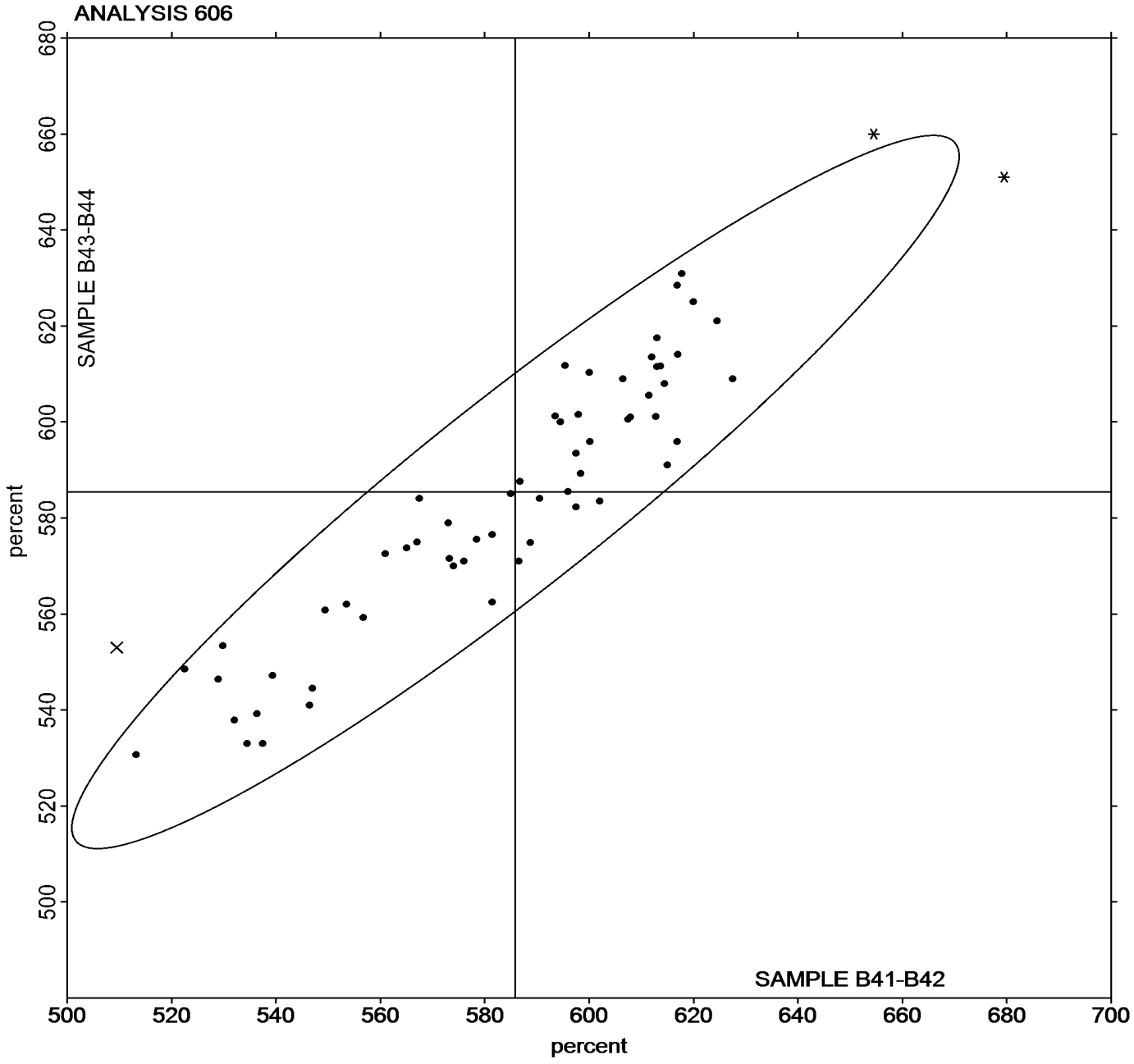
JH2NMX (X) - Data for all samples are low. Possible Systematic Error.

RVMMEL (X) - Data for sample group B43-B44 are high. Inconsistent within the determinations of sample group B43-B44.

XQRQ9G (M) - Data not reported for sample group B41.

Grand Mean Sample **B41-B42** = 585.88 percent

Grand Mean Sample **B43-B44** = 585.42 percent



WebCode	Data Flag	Sample B41-B42 Lab Mean	Diff from Grand Mean	CPV	Sample B43-B44 Lab Mean	Diff from Grand Mean	CPV
2CUYZ9		1,103.5	-39.5	-0.42	1,109.0	-19.7	-0.20
3FBNYC		1,323.0	180.0	1.91	1,297.0	168.3	1.70
3RRDXG		1,048.6	-94.3	-1.00	951.5	-177.2	-1.79
472QJ8		1,138.3	-4.6	-0.05	1,164.3	35.6	0.36
4QQWXP		1,239.3	96.4	1.02	1,222.6	93.9	0.95
4U94DC		1,012.4	-130.6	-1.39	1,048.6	-80.0	-0.81
6XKNJN		1,090.5	-52.5	-0.56	1,064.5	-64.2	-0.65
7ATPV9		1,124.5	-18.5	-0.20	1,100.5	-28.2	-0.28
838ZP6		1,011.6	-131.3	-1.39	1,020.3	-108.3	-1.09
843JR7	*	1,064.5	-78.5	-0.83	900.5	-228.2	-2.31
9833D6		1,119.5	-23.5	-0.25	1,164.0	35.3	0.36
9UD6AL		1,181.3	38.4	0.41	1,146.5	17.9	0.18
ACR4UA		1,104.7	-38.3	-0.41	1,152.4	23.7	0.24
AJ6YQ4		1,306.4	163.5	1.73	1,357.0	228.3	2.31
BWV786		1,079.1	-63.9	-0.68	1,171.9	43.3	0.44
D7NDVY		1,237.2	94.2	1.00	1,242.3	113.6	1.15
DCVX36		1,216.9	73.9	0.78	1,264.7	136.1	1.38
DFXVDX		1,197.0	54.0	0.57	1,130.0	1.3	0.01
E7MURW		1,196.5	53.5	0.57	1,196.0	67.3	0.68
EHCZEZ		1,021.9	-121.0	-1.28	1,061.3	-67.4	-0.68
EZJP2Y		1,136.5	-6.5	-0.07	1,120.0	-8.7	-0.09
EZWQDY		1,253.5	110.5	1.17	1,169.3	40.6	0.41
GKGX9T		1,090.0	-53.0	-0.56	1,018.0	-110.7	-1.12
GNFHPX		1,121.5	-21.4	-0.23	1,138.6	9.9	0.10
HGCUWW	X	474.0	-669.0	-7.10	448.5	-680.2	-6.87
HH8CXX	*	986.5	-156.5	-1.66	878.0	-250.7	-2.53
HRBPUR		1,183.0	40.1	0.43	1,182.0	53.4	0.54
J4KJMW		1,150.9	7.9	0.08	1,121.2	-7.5	-0.08
JH2NMX		1,380.0	237.0	2.51	1,335.0	206.3	2.09
JR8MHT		1,235.0	92.1	0.98	1,195.1	66.5	0.67
K2EJ2P		1,106.5	-36.5	-0.39	1,056.0	-72.7	-0.73
K69KVR		991.0	-152.0	-1.61	1,021.5	-107.2	-1.08
K9BGNR		1,126.2	-16.7	-0.18	1,051.5	-77.1	-0.78
K9QM2W		1,190.8	47.8	0.51	1,139.3	10.6	0.11
KDJLFR		1,087.3	-55.6	-0.59	1,136.4	7.7	0.08
KJUT3Q		1,176.3	33.3	0.35	1,120.4	-8.2	-0.08
MPB8JT		1,067.2	-75.7	-0.80	1,109.0	-19.7	-0.20
MXLA6T		1,019.3	-123.7	-1.31	963.4	-165.3	-1.67

WebCode	Data Flag	Sample B41-B42 Lab Mean	Diff from Grand Mean	CPV	Sample B43-B44 Lab Mean	Diff from Grand Mean	CPV
PD8JWN		1,040.5	-102.5	-1.09	1,087.0	-41.7	-0.42
PMHT8N		1,104.0	-39.0	-0.41	1,119.0	-9.7	-0.10
PVRAVM		1,204.4	61.4	0.65	1,189.1	60.4	0.61
PWHLET		1,122.0	-21.0	-0.22	1,046.5	-82.2	-0.83
PWMTWN		1,293.6	150.6	1.60	1,236.3	107.7	1.09
PXYH7T		1,215.0	72.0	0.76	1,190.3	61.6	0.62
QK33BN	*	1,052.5	-90.5	-0.96	1,184.5	55.8	0.56
QLXLDP		1,132.5	-10.5	-0.11	1,127.5	-1.2	-0.01
QZG9MN		1,275.3	132.4	1.40	1,266.3	137.7	1.39
R8A28M		1,251.0	108.0	1.15	1,182.1	53.4	0.54
RD3WFL		1,168.0	25.0	0.27	1,251.0	122.3	1.24
RRZ3AG		1,153.0	10.0	0.11	1,116.3	-12.4	-0.12
RVMMEL		1,343.5	200.5	2.13	1,260.0	131.3	1.33
TKHWBP		1,110.4	-32.5	-0.35	1,083.6	-45.1	-0.46
TKXFVM		1,096.4	-46.6	-0.49	1,080.1	-48.6	-0.49
X9RUWD		1,073.5	-69.5	-0.74	1,052.0	-76.7	-0.77
XKHKGG		1,144.5	1.5	0.02	1,103.5	-25.2	-0.25
XQRQ9G	M	1,118.3	-24.7	-0.26	1,235.0	106.3	1.07
XY2ELF		1,240.1	97.1	1.03	1,179.2	50.5	0.51
YL97MD		1,016.7	-126.2	-1.34	953.6	-175.0	-1.77
YRHCED		1,287.5	144.5	1.53	1,271.5	142.8	1.44
Z4KALA		1,124.8	-18.2	-0.19	1,140.7	12.1	0.12
ZBTEWH		990.5	-152.5	-1.62	1,006.0	-122.7	-1.24
ZCVJ4B		1,052.0	-91.0	-0.96	1,134.0	5.3	0.05
ZJ33BG		1,110.1	-32.8	-0.35	1,068.9	-59.7	-0.60

Summary Statistics

	Sample B41-B42	Sample B43-B44
Grand Means	1,142.95 psi	1,128.66 psi
Stnd Dev Btwn Labs	94.26 psi	98.96 psi

Statistics based on 61 of 63 reporting participants

Summary Statistics in SI Units		
Grand Means	7.8803 MPa	7.7800 MPa
Stnd Dev Btwn Labs	0.6499 MPa	0.6800 MPa
		Statistics based on 61 of 63 reporting participants

Samples B41-B42: Polyisoprene Compound & B43-B44: Polyisoprene Compound

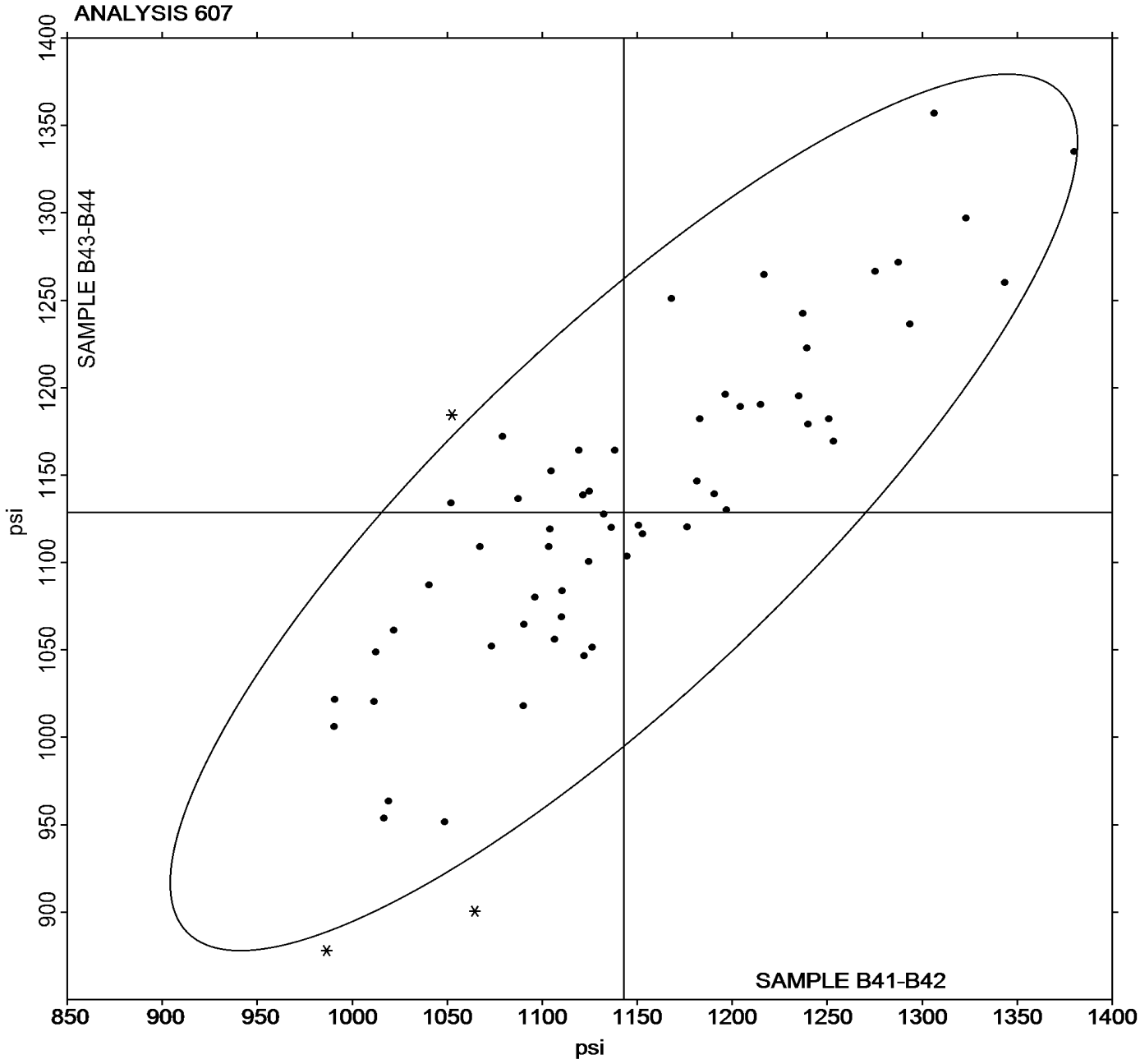
Comments on Assigned Data Flags for Test #607

HGCUWW (X) - Data for all samples are low.

XQRQ9G (M) - Data not reported for sample group B41.

Grand Mean Sample **B41-B42** = 1,142.95 psi

Grand Mean Sample **B43-B44** = 1,128.66 psi



WebCode	Data Flag	Sample B41-B42 Lab Mean	Diff from Grand Mean	CPV	Sample B43-B44 Lab Mean	Diff from Grand Mean	CPV
2CUYZ9		234.0	-9.0	-0.45	236.5	-5.6	-0.31
3FBNYC		275.5	32.5	1.63	268.0	25.9	1.42
3RRDXG		239.3	-3.7	-0.19	221.9	-20.2	-1.10
472QJ8		221.5	-21.5	-1.08	247.2	5.1	0.28
4BVM8D	*	223.4	-19.7	-0.99	257.4	15.3	0.84
4QQWXP		237.8	-5.3	-0.26	238.2	-3.9	-0.22
4U94DC		211.8	-31.3	-1.57	211.8	-30.3	-1.66
6XKNJN		230.5	-12.5	-0.63	223.5	-18.6	-1.02
7ATPV9		255.5	12.5	0.62	249.0	6.9	0.38
838ZP6		229.9	-13.1	-0.66	227.0	-15.1	-0.83
843JR7	X	410.8	167.7	8.41	230.5	-11.6	-0.63
9833D6		229.0	-14.0	-0.70	238.5	-3.6	-0.20
9UD6AL		241.5	-1.5	-0.08	234.2	-7.9	-0.43
ACR4UA		232.1	-10.9	-0.55	244.8	2.7	0.15
AJ6YQ4	X	290.0	47.0	2.35	312.0	69.9	3.82
BWV786		200.9	-42.2	-2.11	221.9	-20.2	-1.10
D7NDVY		256.1	13.0	0.65	255.6	13.5	0.74
DCVX36		270.5	27.5	1.38	282.1	40.0	2.19
DFXVDX	*	300.0	57.0	2.86	287.0	44.9	2.45
E7MURW		248.0	5.0	0.25	248.0	5.9	0.32
EHCZEZ		225.0	-18.0	-0.90	237.4	-4.7	-0.26
EZJP2Y		259.0	16.0	0.80	252.5	10.4	0.57
EZWQDY		234.7	-8.3	-0.42	222.9	-19.3	-1.05
GKGX9T		237.5	-5.5	-0.28	227.0	-15.1	-0.83
GNFHPX		239.0	-4.1	-0.20	232.8	-9.3	-0.51
HGCUWW	X	151.5	-91.5	-4.59	150.5	-91.6	-5.01
HH8CXX		224.0	-19.0	-0.95	208.5	-33.6	-1.84
HRBPUR		257.7	14.7	0.74	259.8	17.7	0.97
J4KJMW		232.8	-10.2	-0.51	237.9	-4.2	-0.23
JH2NMX		234.5	-8.5	-0.43	234.0	-8.1	-0.44
JR8MHT		257.4	14.4	0.72	249.5	7.4	0.40
K2EJ2P		234.5	-8.5	-0.43	221.0	-21.1	-1.15
K69KVR		218.5	-24.5	-1.23	224.0	-18.1	-0.99
K9BGNR		236.4	-6.6	-0.33	219.0	-23.1	-1.26
K9QM2W		243.7	0.6	0.03	244.4	2.3	0.13
KDJLFR		234.7	-8.3	-0.42	256.7	14.6	0.80
KJUT3Q		241.7	-1.3	-0.07	233.5	-8.6	-0.47
MPB8JT		234.2	-8.8	-0.44	242.2	0.1	0.01

WebCode	Data Flag	Sample B41-B42 Lab Mean	Diff from Grand Mean	CPV	Sample B43-B44 Lab Mean	Diff from Grand Mean	CPV
MXLA6T	X	158.5	-84.6	-4.24	145.1	-97.0	-5.30
PD8JWN		229.0	-14.0	-0.70	239.5	-2.6	-0.14
PMHT8N		236.0	-7.0	-0.35	235.5	-6.6	-0.36
PVRAVM		264.1	21.1	1.06	252.9	10.8	0.59
PWHLET		243.5	0.5	0.02	226.0	-16.1	-0.88
PWMTWN		278.5	35.5	1.78	285.5	43.4	2.37
PXYH7T		256.1	13.1	0.65	248.4	6.3	0.34
QK33BN		242.0	-1.0	-0.05	260.5	18.4	1.01
QLXLDP	X	313.5	70.5	3.53	312.3	70.1	3.83
QUW29P		229.5	-13.5	-0.68	252.5	10.4	0.57
QZG9MN		263.1	20.0	1.00	258.9	16.8	0.92
R8A28M		269.8	26.7	1.34	255.3	13.2	0.72
RD3WFL	X	291.0	48.0	2.40	317.0	74.9	4.09
RRZ3AG		248.4	5.3	0.27	235.7	-6.4	-0.35
RVMMEL		272.0	29.0	1.45	257.0	14.9	0.81
TKHWBP		236.2	-6.9	-0.34	234.5	-7.6	-0.42
TKXFVM		246.8	3.7	0.19	241.8	-0.3	-0.02
X9RUWD		224.5	-18.5	-0.93	215.0	-27.1	-1.48
XKHKGG		257.5	14.5	0.73	246.5	4.4	0.24
XQRQ9G	M	232.1	-11.0	-0.55	258.2	16.1	0.88
XY2ELF	*	301.7	58.6	2.94	285.0	42.9	2.35
YL97MD		224.1	-18.9	-0.95	214.7	-27.4	-1.50
YRHCED		272.0	29.0	1.45	264.5	22.4	1.22
Z4KALA		229.2	-13.9	-0.70	235.7	-6.4	-0.35
ZBTEWH		225.0	-18.0	-0.90	228.0	-14.1	-0.77
ZCVJ4B		225.5	-17.5	-0.88	243.5	1.4	0.08
ZJ33BG		239.2	-3.8	-0.19	229.4	-12.7	-0.70

Summary Statistics

	Sample B41-B42	Sample B43-B44
Grand Means	243.03 psi	242.10 psi
Stnd Dev Btwn Labs	19.95 psi	18.29 psi

Statistics based on 58 of 65 reporting participants

Summary Statistics in SI Units		
Grand Means	1.6756 MPa	1.6700 MPa
Stnd Dev Btwn Labs	0.1375 MPa	0.1300 MPa
		Statistics based on 58 of 65 reporting participants

Samples B41-B42: Polyisoprene Compound & B43-B44: Polyisoprene Compound

Comments on Assigned Data Flags for Test #608

843JR7 (X) - Data for sample group B41-B42 are high.

AJ6YQ4 (X) - Data for sample group B43-B44 are high.

HGCUWW (X) - Data for all samples are low. Possible Systematic Error.

MXLA6T (X) - Data for all samples are low. Possible Systematic Error.

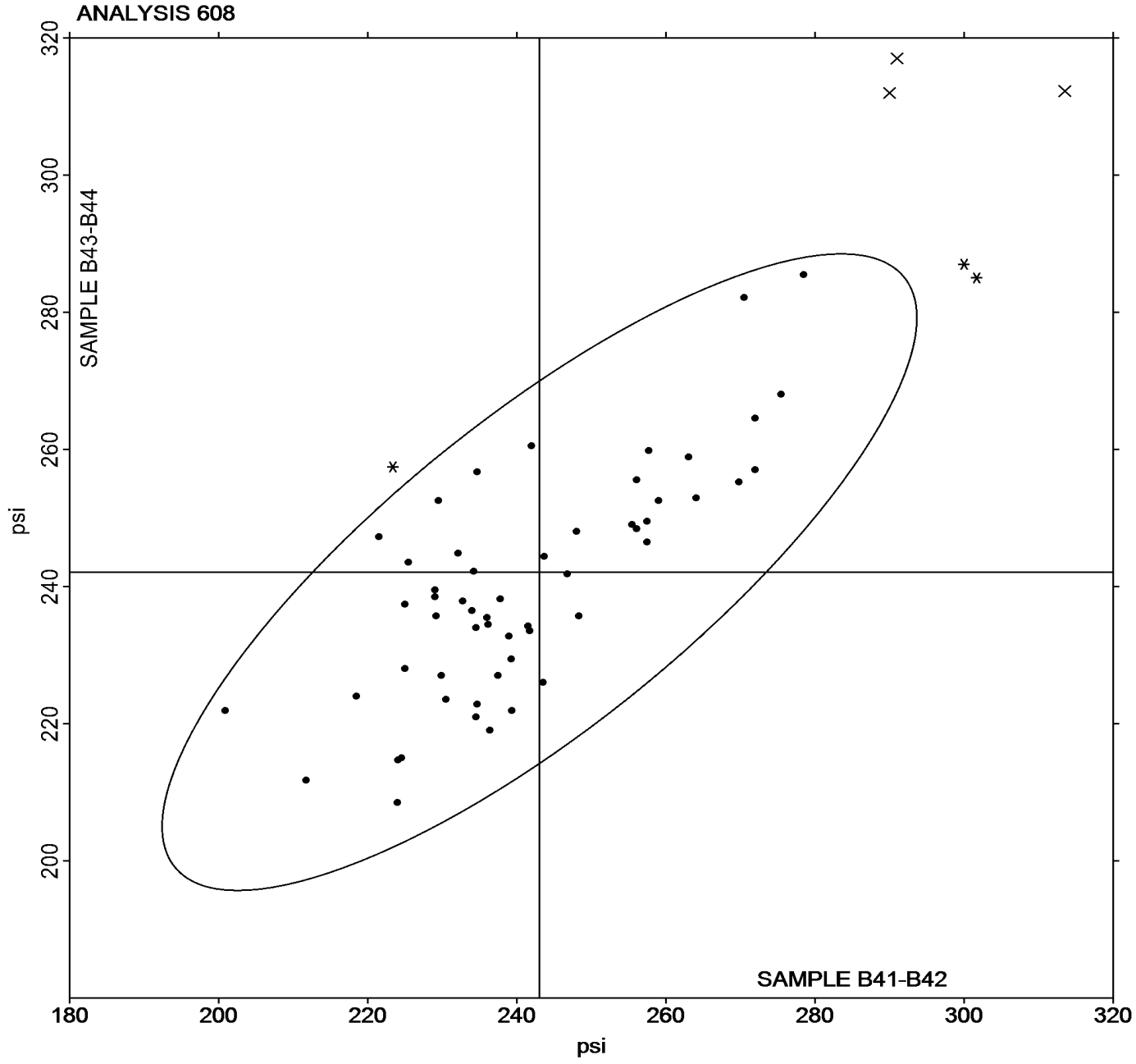
QLXLDP (X) - Data for all samples are high. Possible Systematic Error.

RD3WFL (X) - Data for sample group B43-B44 are high.

XQRQ9G (M) - Data not reported for sample group B41.

Grand Mean Sample **B41-B42** = 243.03 psi

Grand Mean Sample **B43-B44** = 242.10 psi



WebCode	Data Flag	Sample B41-B42 Lab Mean	Diff from Grand Mean	CPV	Sample B43-B44 Lab Mean	Diff from Grand Mean	CPV	Instr Code
2CUYZ9		51.00	-0.05	-0.04	51.00	-0.14	-0.09	HH
3FBNYC		51.35	0.30	0.19	51.20	0.06	0.04	BT
3RRDXG	X	56.50	5.45	3.54	56.85	5.71	3.61	BT
472QJ8	X	46.00	-5.05	-3.29	47.95	-3.19	-2.02	BT
4BVM8D	X	46.40	-4.65	-3.03	49.55	-1.59	-1.01	BT
4QQWXP		53.00	1.95	1.27	53.00	1.86	1.18	HH
4U94DC		52.50	1.45	0.94	51.50	0.36	0.23	BT
6XKNJN		52.50	1.45	0.94	52.00	0.86	0.54	BT
7ATPV9		50.00	-1.05	-0.69	49.50	-1.64	-1.04	BT
838ZP6		50.50	-0.55	-0.36	50.50	-0.64	-0.41	BT
843JR7		51.00	-0.05	-0.04	51.00	-0.14	-0.09	BT
9833D6		51.00	-0.05	-0.04	51.00	-0.14	-0.09	BT
9UD6AL		49.00	-2.05	-1.34	49.00	-2.14	-1.36	BT
ACR4UA		50.00	-1.05	-0.69	51.50	0.36	0.23	BT
AJ6YQ4	*	50.85	-0.20	-0.13	52.50	1.36	0.86	HH
ATCUT9		50.50	-0.55	-0.36	51.00	-0.14	-0.09	BT
BWV786	X	46.90	-4.15	-2.70	48.90	-2.24	-1.42	BT
D7NDVY		50.00	-1.05	-0.69	50.90	-0.24	-0.15	BT
DCVX36		51.25	0.20	0.13	50.55	-0.59	-0.37	BT
DFXVDX		50.00	-1.05	-0.69	50.50	-0.64	-0.41	HH
E7MURW		53.50	2.45	1.59	54.00	2.86	1.81	HH
EHCZEZ		51.50	0.45	0.29	51.00	-0.14	-0.09	BT
EZJP2Y		49.83	-1.22	-0.80	50.57	-0.57	-0.36	BT
EZWQDY		50.00	-1.05	-0.69	50.00	-1.14	-0.72	BT
GKGX9T		53.00	1.95	1.27	53.50	2.36	1.49	BT
GNFHPX		51.95	0.90	0.58	51.90	0.76	0.48	BT
HGCUWW		54.50	3.45	2.24	54.50	3.36	2.13	BT
HH8CXX		49.50	-1.55	-1.01	49.50	-1.64	-1.04	BT
HRBPUR		49.30	-1.75	-1.14	50.30	-0.84	-0.53	BT
HWRR2X		51.00	-0.05	-0.04	51.00	-0.14	-0.09	HH
J4KJMW		52.20	1.15	0.75	51.75	0.61	0.39	BT
JH2NMX		51.85	0.80	0.52	51.85	0.71	0.45	BT
JR8MHT		52.00	0.95	0.62	52.70	1.56	0.99	BT
K2EJ2P		49.95	-1.10	-0.72	49.70	-1.44	-0.91	BT
K69KVR		51.00	-0.05	-0.04	51.50	0.36	0.23	BT
K9BGNR	*	47.35	-3.70	-2.41	48.50	-2.64	-1.67	HH
K9QM2W		50.00	-1.05	-0.69	50.00	-1.14	-0.72	BT
KA7YQU	X	49.00	-2.05	-1.34	47.00	-4.14	-2.62	BT

WebCode	Data Flag	Sample B41-B42 Lab Mean	Sample B41-B42 Diff from Grand Mean	Sample B41-B42 CPV	Sample B43-B44 Lab Mean	Sample B43-B44 Diff from Grand Mean	Sample B43-B44 CPV	Instr Code
KDJLFR		49.00	-2.05	-1.34	49.00	-2.14	-1.36	BT
KJUT3Q		49.10	-1.95	-1.27	48.70	-2.44	-1.55	BT
LWDUXM		50.50	-0.55	-0.36	52.00	0.86	0.54	BT
MDXUHR		48.50	-2.55	-1.66	48.50	-2.64	-1.67	BT
MPB8JT		51.00	-0.05	-0.04	50.70	-0.44	-0.28	BT
MXLA6T		50.10	-0.95	-0.62	50.00	-1.14	-0.72	BT
NREZB7		51.50	0.45	0.29	51.50	0.36	0.23	HH
PD8JWN		52.40	1.35	0.88	52.60	1.46	0.92	BT
PMHT8N		50.65	-0.40	-0.26	50.60	-0.54	-0.34	BT
PVRAVM		51.50	0.45	0.29	51.45	0.31	0.20	BT
PWHLET		51.75	0.70	0.45	52.40	1.26	0.80	BT
PWMTWN		53.00	1.95	1.27	52.50	1.36	0.86	HH
PXYH7T		50.85	-0.20	-0.13	51.05	-0.09	-0.06	BT
QK33BN		51.50	0.45	0.29	50.90	-0.24	-0.15	BT
QLXLDP		52.00	0.95	0.62	52.00	0.86	0.54	BT
QUW29P		51.15	0.10	0.06	50.95	-0.19	-0.12	BT
QZG9MN		51.40	0.35	0.22	51.20	0.06	0.04	BT
R8A28M		52.25	1.20	0.78	51.55	0.41	0.26	BT
RD3WFL		50.00	-1.05	-0.69	50.50	-0.64	-0.41	BT
RRZ3AG		54.00	2.95	1.92	53.50	2.36	1.49	BT
RVMMEL	*	48.00	-3.05	-1.99	47.00	-4.14	-2.62	BT
TKHWBP	*	48.50	-2.55	-1.66	47.50	-3.64	-2.31	BT
TKXFVM		52.50	1.45	0.94	51.85	0.71	0.45	BT
X9RUWD		51.70	0.65	0.42	52.05	0.91	0.58	HH
XJM3EF		54.50	3.45	2.24	55.00	3.86	2.44	HH
XY2ELF		49.50	-1.55	-1.01	50.00	-1.14	-0.72	BT
YL97MD		50.00	-1.05	-0.69	50.00	-1.14	-0.72	BT
YRHCED		52.45	1.40	0.91	51.90	0.76	0.48	HH
Z2K2FE		52.50	1.45	0.94	52.50	1.36	0.86	BT
Z4KALA		49.60	-1.45	-0.95	49.35	-1.79	-1.13	BT
ZBTEWH		51.80	0.75	0.49	51.65	0.51	0.32	HH
ZCVJ4B		49.50	-1.55	-1.01	51.00	-0.14	-0.09	BT
ZJ33BG	*	54.00	2.95	1.92	55.00	3.86	2.44	HH

Summary Statistics

Grand Means	51.054 Type A	51.141 Type A
Stnd Dev Btwn Labs	1.537 Type A	1.580 Type A

Statistics based on 66 of 71 reporting participants

Samples B41-B42: Polyisoprene Compound & B43-B44: Polyisoprene Compound

Comments on Assigned Data Flags for Test #620

3RRDXG (X) - Data for all samples are high. Possible Systematic Error.

472QJ8 (X) - Data for sample group B41-B42 are low. Inconsistent within the determinations of sample group B41-B42.

4BVM8D (X) - Data for sample group B41-B42 are low. Inconsistent within the determinations of sample group B41-B42.

BWV786 (X) - Data for sample group B41-B42 are low.

KA7YQU (X) - Inconsistent in testing between samples.

Key to Instrument Codes Reported by Participants

BT Benchtop

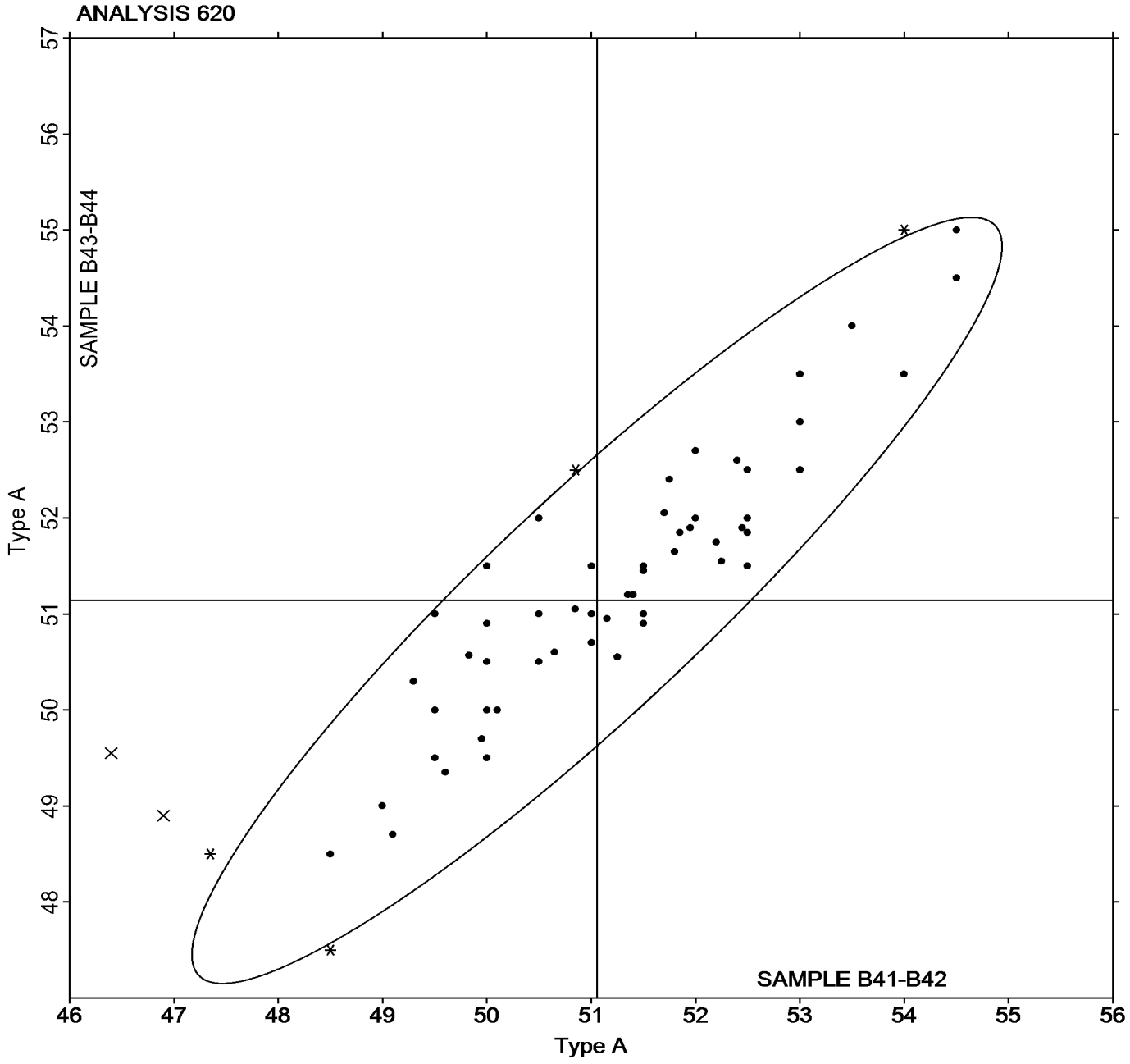
HH Handheld

Results by Reading Time (as reported by laboratory)

	Sample B41-B42 *Polyisoprene Compound*			Sample B43-B44 *Polyisoprene Compound*				
Reading Time	Group Mean	Btwn Lab STD	Diff from GM	Group Mean	Btwn Lab STD	Diff from GM	Labs Incl	/ Rpt
Readings taken within 0 - 5 seconds	51.43	1.35	0.37	51.44	1.36	0.30	45	49
Readings taken at 5 seconds	49.44	0.82	-1.61	49.69	1.07	-1.45	3	6
Readings taken after 5+ seconds	50.43	1.00	-0.63	50.62	0.98	-0.52	6	7
Maximum hardness indicator used	50.84	1.39	-0.22	51.01	1.15	-0.13	7	9

Grand Mean Sample **B41-B42** = 51.054 Type A

Grand Mean Sample **B43-B44** = 51.141 Type A



WebCode	Data Flag	Sample B41-B42 Lab Mean	Diff from Grand Mean	CPV	Sample B43-B44 Lab Mean	Diff from Grand Mean	CPV
2CUYZ9		1.137	0.001	0.16	1.137	0.001	0.24
3FBNYC		1.134	-0.002	-0.63	1.132	-0.004	-1.21
3RRDXG	X	1.128	-0.008	-2.64	1.124	-0.012	-3.49
472QJ8		1.136	0.000	0.13	1.136	0.000	0.04
4U94DC		1.141	0.005	1.43	1.140	0.004	1.26
6XKNJN		1.136	0.000	-0.09	1.136	0.000	-0.03
7ATPV9		1.137	0.001	0.32	1.138	0.002	0.68
838ZP6		1.133	-0.003	-1.10	1.134	-0.002	-0.63
843JR7	X	1.145	0.009	2.85	1.045	-0.091	-26.34
9833D6		1.132	-0.004	-1.40	1.132	-0.004	-1.15
9UD6AL	*	1.143	0.007	2.06	1.140	0.004	1.11
ACR4UA	X	1.131	-0.005	-1.52	1.135	0.000	-0.08
AJ6YQ4		1.130	-0.006	-1.90	1.129	-0.006	-1.81
D7NDVY		1.137	0.001	0.16	1.134	-0.002	-0.63
DCVX36		1.137	0.001	0.40	1.137	0.002	0.46
DFXVDX		1.129	-0.007	-2.21	1.128	-0.008	-2.23
DXYJ4W		1.139	0.003	0.95	1.138	0.002	0.68
E7MURW		1.136	0.000	-0.15	1.135	-0.001	-0.19
EHCZEZ		1.130	-0.006	-1.90	1.130	-0.006	-1.65
EZWQDY	X	1.128	-0.008	-2.53	1.134	-0.002	-0.63
GKGX9T		1.138	0.002	0.64	1.138	0.002	0.68
GNFHPX		1.137	0.001	0.26	1.137	0.002	0.50
HGCUWW		1.137	0.001	0.30	1.137	0.001	0.31
HH8CXX		1.138	0.002	0.48	1.139	0.003	0.82
HWRR2X		1.140	0.004	1.13	1.139	0.003	0.91
J4KJMW		1.139	0.003	0.95	1.139	0.003	0.97
JH2NMX		1.138	0.002	0.48	1.138	0.002	0.53
JR8MHT		1.133	-0.003	-0.95	1.133	-0.003	-0.92
K2EJ2P	*	1.139	0.003	0.94	1.142	0.006	1.80
K69KVR		1.137	0.001	0.40	1.137	0.001	0.39
K9QM2W		1.137	0.001	0.37	1.136	0.001	0.23
KA7YQU		1.131	-0.005	-1.53	1.133	-0.003	-0.91
KJUT3Q	X	1.140	0.004	1.21	1.130	-0.006	-1.72
MPB8JT		1.140	0.004	1.11	1.138	0.002	0.68
MXLA6T		1.140	0.004	1.27	1.139	0.003	0.97
PD8JWN		1.138	0.002	0.56	1.137	0.001	0.37
PWHLET		1.136	0.000	0.00	1.136	0.000	0.10
PWMTWN	*	1.135	-0.001	-0.30	1.131	-0.005	-1.49

WebCode	Data Flag	Sample B41-B42 Lab Mean	Sample B41-B42 Diff from Grand Mean	Sample B41-B42 CPV	Sample B43-B44 Lab Mean	Sample B43-B44 Diff from Grand Mean	Sample B43-B44 CPV
PXYH7T		1.129	-0.007	-2.21	1.127	-0.009	-2.52
QK33BN	X	1.129	-0.007	-2.09	1.135	0.000	-0.11
QLXLDP		1.137	0.001	0.16	1.136	0.000	0.10
QUW29P		1.141	0.005	1.59	1.142	0.006	1.84
QZG9MN		1.135	-0.001	-0.47	1.135	-0.001	-0.19
RRZ3AG		1.136	0.000	0.00	1.135	-0.001	-0.34
TKXFVM		1.137	0.001	0.24	1.137	0.001	0.33
X9RUWD		1.139	0.003	0.84	1.140	0.004	1.22
XJM3EF		1.134	-0.002	-0.63	1.135	-0.001	-0.19
XKHKGG		1.136	0.000	0.00	1.135	-0.001	-0.19
XY2ELF		1.136	0.000	-0.15	1.137	0.001	0.39
YRHCED		1.132	-0.004	-1.29	1.130	-0.005	-1.54
Z2K2FE		1.138	0.002	0.48	1.138	0.002	0.53
ZBTEWH		1.136	0.000	0.15	1.137	0.001	0.40
ZJ33BG		1.133	-0.003	-1.06	1.133	-0.002	-0.72

Summary Statistics

	Sample B41-B42	Sample B43-B44
Grand Means	1.1360 g/cm^3 (Mg/m^3)	1.1357 g/cm^3 (Mg/m^3)
Stnd Dev Btwn Labs	0.0032 g/cm^3 (Mg/m^3)	0.0034 g/cm^3 (Mg/m^3)

Statistics based on 47 of 53 reporting participants

Samples B41-B42: Polyisoprene Compound & B43-B44: Polyisoprene Compound

Comments on Assigned Data Flags for Test #621

3RRDXG (X) - Data for sample group B43-B44 are low. Inconsistent within the determinations of sample group B41-B42.

843JR7 (X) - Extreme Data.

ACR4UA (X) - Inconsistent in testing between samples.

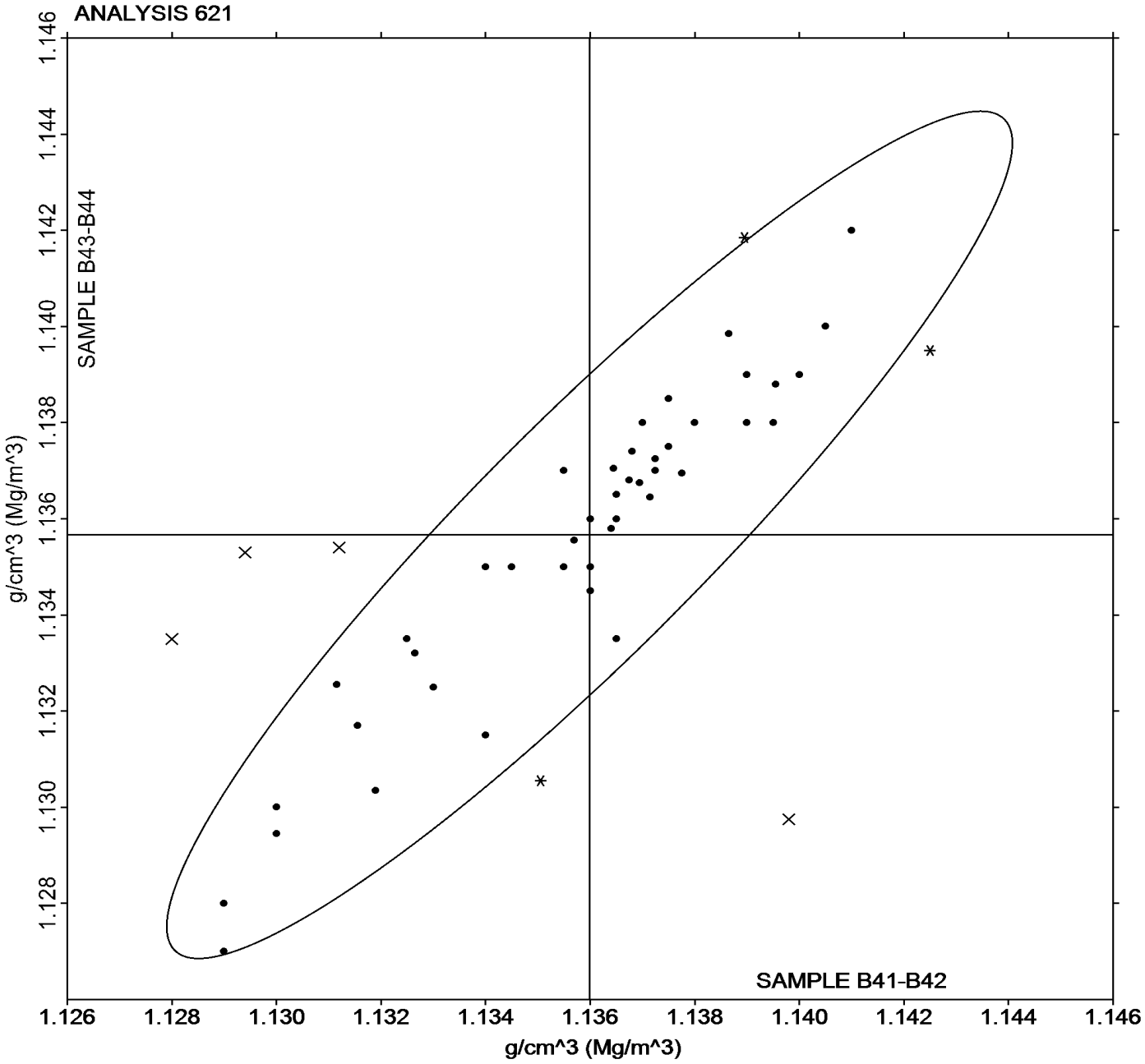
EZWQDY (X) - Inconsistent in testing between samples. Inconsistent within the determinations of both sample groups.

KJUT3Q (X) - Inconsistency in testing within sample group B43-B44.

QK33BN (X) - Inconsistent in testing between samples.

Grand Mean Sample **B41-B42** = 1.1360 g/cm^3 (Mg/m^3)

Grand Mean Sample **B43-B44** = 1.1357 g/cm^3 (Mg/m^3)



WebCode	Data Flag	Sample HB41-HB42 Lab Mean	Diff from Grand Mean	CPV	Sample HB43-HB44 Lab Mean	Diff from Grand Mean	CPV	Instr Code
472QJ8		70.15	-3.95	-1.54	82.35	-0.94	-0.45	BT
4BVM8D		70.65	-3.45	-1.34	79.30	-3.99	-1.90	BT
8XXVX6		71.00	-3.10	-1.21	82.05	-1.24	-0.59	BT
9LGBE9		75.80	1.70	0.66	82.80	-0.49	-0.24	BT
A9RTYA		75.50	1.40	0.54	85.00	1.71	0.81	BT
BRUAD4		71.50	-2.60	-1.01	81.75	-1.54	-0.74	BT
CL7ZM7		71.40	-2.70	-1.05	81.50	-1.79	-0.86	BT
DUDW83	X	70.65	-3.45	-1.34	74.30	-8.99	-4.29	HH
EHCZEZ		72.00	-2.10	-0.82	82.00	-1.29	-0.62	BT
EZWQDY		78.00	3.90	1.52	86.00	2.71	1.29	HH
GKGX9T		73.50	-0.60	-0.24	83.00	-0.29	-0.14	BT
HZR4WW		78.15	4.05	1.58	85.65	2.36	1.12	HH
J4KJMW		74.60	0.50	0.19	83.25	-0.04	-0.02	BT
JZ3CEW		70.00	-4.10	-1.60	78.50	-4.79	-2.29	BT
KDJLFR		72.50	-1.60	-0.62	79.50	-3.79	-1.81	XX
LWDUXM		74.00	-0.10	-0.04	83.50	0.21	0.10	BT
MXLA6T		74.20	0.10	0.04	85.30	2.01	0.96	BT
PFGGCQ		77.75	3.65	1.42	85.50	2.21	1.05	HH
PQH44N		76.45	2.35	0.91	84.35	1.06	0.50	BT
QUCKTM		73.65	-0.45	-0.18	84.00	0.71	0.34	BT
R8A28M		73.35	-0.75	-0.29	83.90	0.61	0.29	BT
RRZ3AG		73.50	-0.60	-0.24	82.00	-1.29	-0.62	BT
T9MNP2		78.00	3.90	1.52	86.00	2.71	1.29	BT
WEZX8L		72.50	-1.60	-0.62	83.00	-0.29	-0.14	HH
WLYH9G		77.30	3.20	1.24	84.80	1.51	0.72	HH
WPD6YE		75.25	1.15	0.45	85.70	2.41	1.15	HH
X9RUWD		76.00	1.90	0.74	84.95	1.66	0.79	HH

Summary Statistics

	Sample HB41-HB42	Sample HB43-HB44
Grand Means	74.104 Type D	83.294 Type D
Stnd Dev Btwn Labs	2.569 Type D	2.097 Type D

Statistics based on 26 of 27 reporting participants

Samples HB41-HB42: Hardness Disc & HB43-HB44: Hardness Disc

Comments on Assigned Data Flags for Test #625

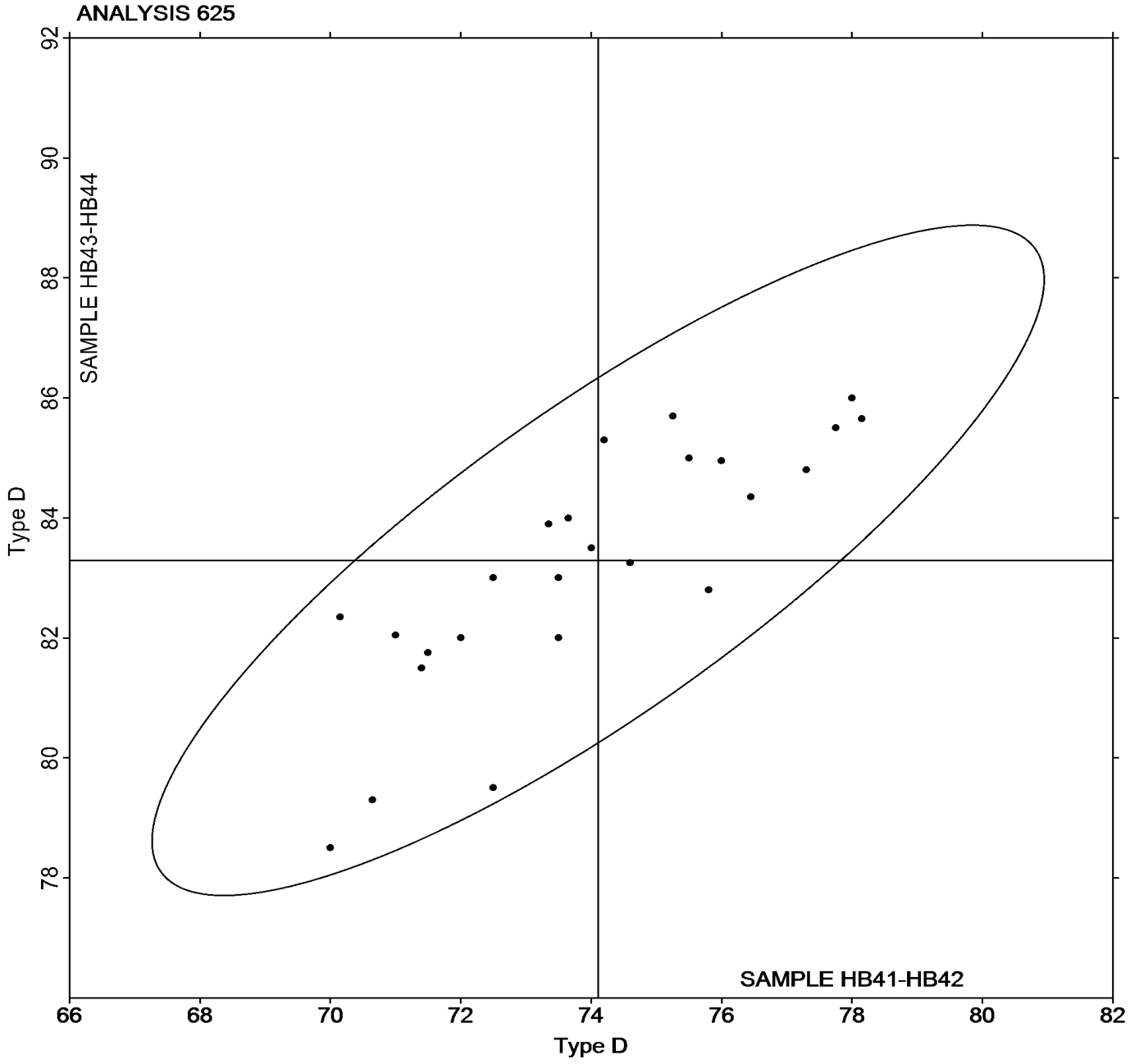
DUDW83 (X) - Data for sample group HB43-HB44 are low. Inconsistent within the determinations of both sample groups.

Key to Instrument Codes Reported by Participants

BT	Benchtop	HH	Handheld
XX	Specify Benchtop or Handheld Instrument		

Grand Mean Sample **HB41-HB42** = 74.104 Type D

Grand Mean Sample **HB43-HB44** = 83.294 Type D



Rubber Interlaboratory Testing Program

Analysis 630

Tensile Strength: Precured vs. Lab-Cured Samples (psi)

WebCode	Data Flag	Sample B41-B42 Lab Mean	Sample B41-B42 Diff from Grand Mean	Sample B41-B42 CPV	Sample K41-K42 Lab Mean	Sample K41-K42 Diff from Grand Mean	Sample K41-K42 CPV
2CUYZ9		3,170.0	-63.9	-0.54	3,065.0	124.7	0.78
4U94DC		3,135.0	-98.9	-0.84	2,938.5	-1.8	-0.01
9UD6AL		3,235.1	1.2	0.01	2,923.3	-17.0	-0.11
DCVX36		3,382.3	148.4	1.26	2,802.9	-137.4	-0.85
E7MURW		3,137.0	-96.9	-0.82	2,694.5	-245.8	-1.53
EZWQDY		3,169.0	-64.9	-0.55	2,971.6	31.3	0.19
FQP2J2	M	No data reported for this sample			2,859.3	-81.0	-0.50
GNFHPX		3,454.5	220.6	1.87	3,117.6	177.4	1.10
J4KJMW		3,161.9	-72.0	-0.61	2,973.3	33.0	0.21
JP3WDX	M	No data reported for this sample			2,986.6	46.4	0.29
K2EJ2P		3,193.0	-40.9	-0.35	3,157.0	216.7	1.35
KJUT3Q		3,379.4	145.5	1.24	3,064.7	124.4	0.77
PVRAVM		3,149.9	-83.9	-0.71	2,971.0	30.8	0.19
PXYH7T		3,307.0	73.1	0.62	3,115.1	174.9	1.09
TKXFVM		3,210.8	-23.1	-0.20	2,691.5	-248.8	-1.55
ZBTEWH		3,242.5	8.6	0.07	2,623.0	-317.3	-1.97
ZCVJ4B		3,023.5	-210.4	-1.79	2,937.5	-2.8	-0.02
ZJ33BG		3,391.4	157.5	1.34	2,997.6	57.4	0.36

Summary Statistics

	Sample B41-B42	Sample K41-K42
Grand Means	3,233.89 psi	2,940.25 psi
Stnd Dev Btwn Labs	117.82 psi	160.93 psi

Statistics based on 16 of 18 reporting participants

Summary Statistics in SI Units

	Sample B41-B42	Sample K41-K42
Grand Means	22.297 MPa	20.270 MPa
Stnd Dev Btwn Labs	0.812 MPa	1.110 MPa

Statistics based on 16 of 18 reporting participants

Samples B41-B42: Polyisoprene Compound & K41-K42: Polyisoprene Compound

Comments on Assigned Data Flags for Test #630

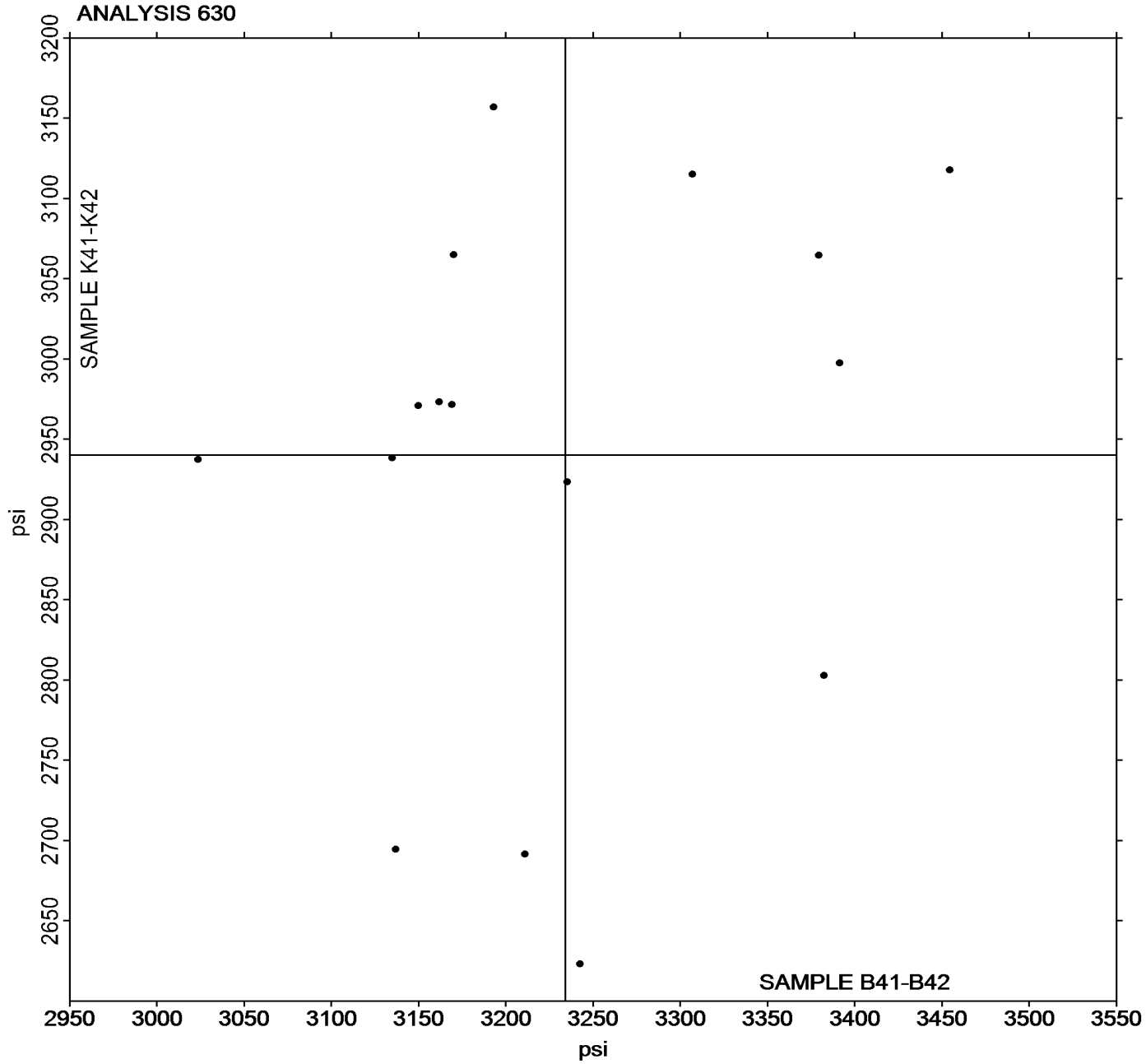
FQP2J2 (M) - Participant did not submit data for sample group B41-B42.

JP3WDX (M) - Participant did not submit data for sample group B41-B42.

Tensile Strength: Precured vs. Lab-Cured Samples (psi)

Grand Mean Sample **B41-B42** = 3,233.89 psi

Grand Mean Sample **K41-K42** = 2,940.25 psi



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

Ultimate Elongation: Precured vs. Lab-Cured Samples (percent)

WebCode	Data Flag	Sample B41-B42 Lab Mean	Sample B41-B42 Diff from Grand Mean	Sample B41-B42 CPV	Sample K41-K42 Lab Mean	Sample K41-K42 Diff from Grand Mean	Sample K41-K42 CPV
2CUYZ9		597.5	12.2	0.50	578.5	17.2	0.59
4U94DC		612.8	27.5	1.12	595.9	34.6	1.18
9UD6AL		576.0	-9.3	-0.38	551.5	-9.8	-0.34
DCVX36		586.5	1.2	0.05	545.0	-16.3	-0.56
E7MURW		547.0	-38.3	-1.55	547.5	-13.8	-0.47
EZWQDY	*	529.8	-55.4	-2.25	474.4	-86.9	-2.98
FQP2J2	M	No data reported for this sample			574.0	12.7	0.43
GNFHPX		588.7	3.4	0.14	571.8	10.5	0.36
J4KJMW		586.8	1.5	0.06	587.0	25.6	0.88
JP3WDX	M	No data reported for this sample			567.2	5.8	0.20
K2EJ2P		567.0	-18.3	-0.74	581.5	20.2	0.69
KJUT3Q		600.1	14.8	0.60	574.5	13.1	0.45
PVRAVM		565.1	-20.2	-0.82	551.2	-10.2	-0.35
PXYH7T		573.2	-12.0	-0.49	588.8	27.5	0.94
TKXFVM		602.0	16.7	0.68	543.0	-18.3	-0.63
ZBTEWH		617.0	31.7	1.29	544.0	-17.3	-0.59
ZCVJ4B		598.0	12.7	0.52	568.5	7.2	0.25
ZJ33BG		616.9	31.7	1.29	578.4	17.0	0.58

Summary Statistics

	Sample B41-B42	Sample K41-K42
Grand Means	585.27 percent	561.33 percent
Stnd Dev Btwn Labs	24.63 percent	29.19 percent

Statistics based on 16 of 18 reporting participants

Samples B41-B42: Polyisoprene Compound & K41-K42: Polyisoprene Compound

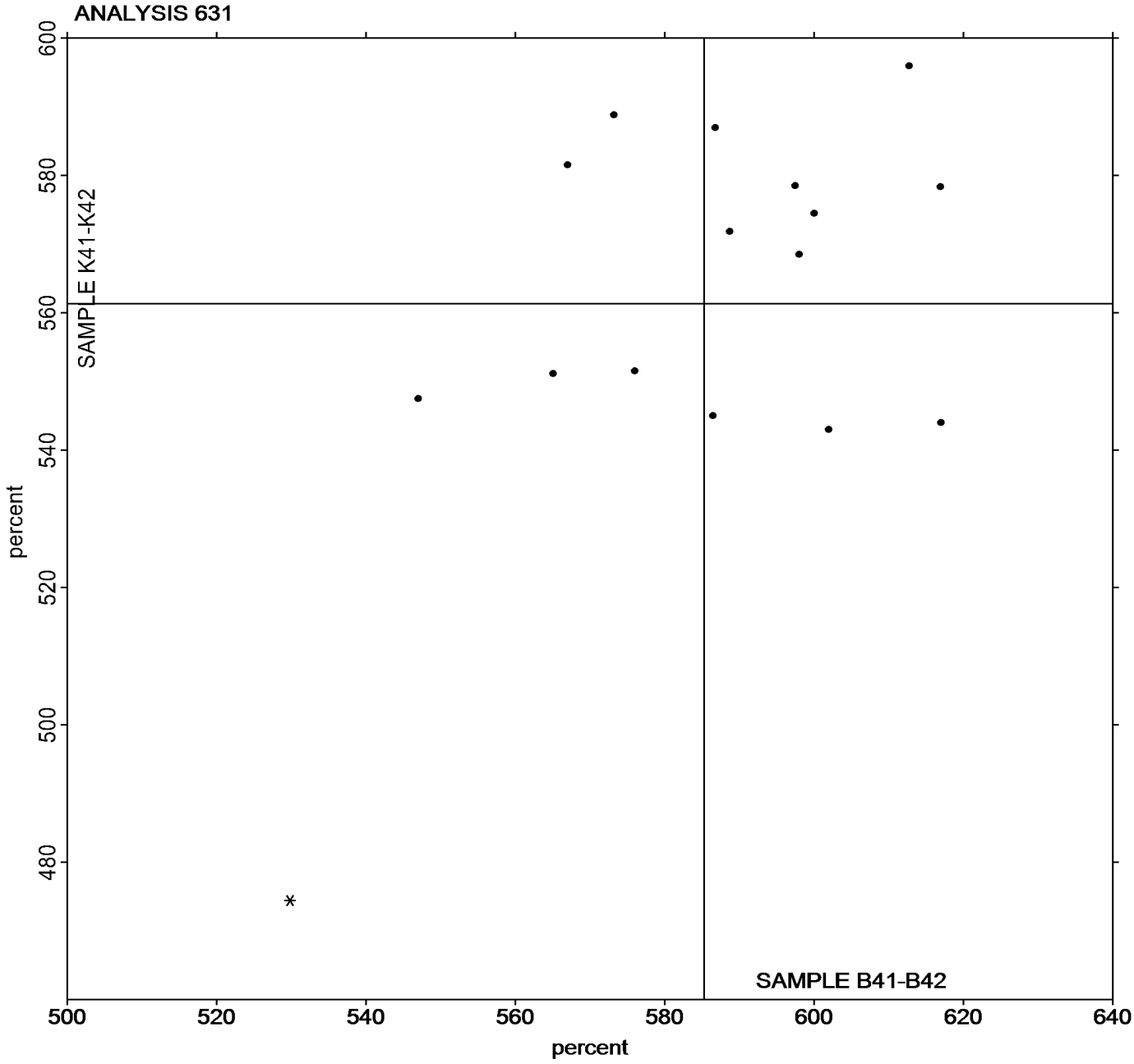
Comments on Assigned Data Flags for Test #631

FQP2J2 (M) - Participant did not submit data for sample group B41-B42.

JP3WDX (M) - Participant did not submit data for sample group B41-B42.

Grand Mean Sample **B41-B42** = 585.27 percent

Grand Mean Sample **K41-K42** = 561.33 percent



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

Stress at 300% Elongation: Precured vs. Lab-Cured Samples (psi)

WebCode	Data Flag	Sample B41-B42 Lab Mean	Sample B41-B42 Diff from Grand Mean	Sample B41-B42 CPV	Sample K41-K42 Lab Mean	Sample K41-K42 Diff from Grand Mean	Sample K41-K42 CPV
2CUYZ9		1,103.5	-33.2	-0.44	1,095.0	51.7	0.56
4U94DC		1,012.4	-124.3	-1.64	937.0	-106.3	-1.15
9UD6AL		1,181.3	44.6	0.59	1,026.9	-16.4	-0.18
DCVX36		1,216.9	80.2	1.05	1,031.2	-12.0	-0.13
E7MURW		1,196.5	59.8	0.79	934.0	-109.3	-1.18
EZWQDY		1,253.5	116.7	1.54	1,294.4	251.1	2.72
FQP2J2	M	No data reported for this sample			979.0	-64.3	-0.70
GNFHPX		1,121.5	-15.2	-0.20	931.2	-112.1	-1.21
J4KJMW		1,150.9	14.2	0.19	1,000.0	-43.2	-0.47
JP3WDX	M	No data reported for this sample			920.2	-123.1	-1.33
K2EJ2P		1,106.5	-30.2	-0.40	1,076.5	33.2	0.36
KJUT3Q		1,176.3	39.5	0.52	1,099.4	56.1	0.61
PVRAVM		1,204.4	67.6	0.89	1,122.6	79.3	0.86
PXYH7T		1,215.0	78.3	1.03	997.7	-45.5	-0.49
TKXFVM		1,096.4	-40.4	-0.53	1,085.0	41.7	0.45
ZBTEWH		990.5	-146.2	-1.92	949.0	-94.3	-1.02
ZCVJ4B		1,052.0	-84.7	-1.11	1,037.5	-5.8	-0.06
ZJ33BG		1,110.1	-26.6	-0.35	1,074.8	31.6	0.34

Summary Statistics

	Sample B41-B42	Sample K41-K42
Grand Means	1,136.72 psi	1,043.26 psi
Stnd Dev Btwn Labs	76.02 psi	92.41 psi

Statistics based on 16 of 18 reporting participants

Summary Statistics in SI Units

	Sample B41-B42	Sample K41-K42
Grand Means	7.8373 MPa	7.1900 MPa
Stnd Dev Btwn Labs	0.5241 MPa	0.6400 MPa

Statistics based on 16 of 18 reporting participants

Samples B41-B42: Polyisoprene Compound & K41-K42: Polyisoprene Compound

Comments on Assigned Data Flags for Test #632

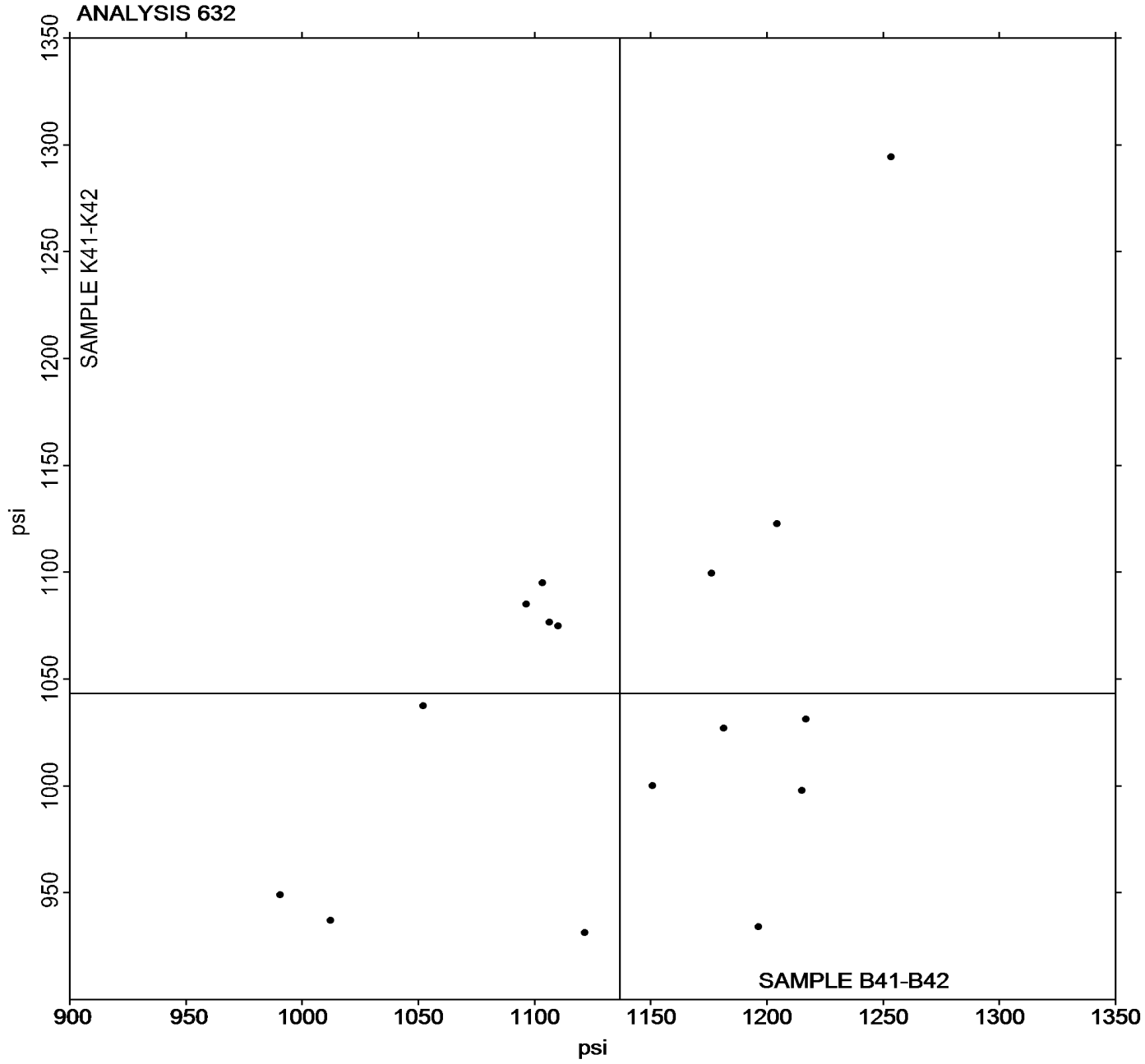
FQP2J2 (M) - Participant did not submit data for sample group B41-B42.

JP3WDX (M) - Participant did not submit data for sample group B41-B42.

Stress at 300% Elongation: Precured vs. Lab-Cured Samples (psi)

Grand Mean Sample **B41-B42** = 1,136.72 psi

Grand Mean Sample **K41-K42** = 1,043.26 psi



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

Stress at 100% Elongation: Precured vs. Lab-Cured Samples (psi)

WebCode	Data Flag	Sample B41-B42 Lab Mean	Sample B41-B42 Diff from Grand Mean	Sample B41-B42 CPV	Sample K41-K42 Lab Mean	Sample K41-K42 Diff from Grand Mean	Sample K41-K42 CPV
2CUYZ9		234.0	-6.3	-0.43	245.0	17.4	1.04
4U94DC		211.8	-28.6	-1.94	187.8	-39.8	-2.38
9UD6AL		241.5	1.2	0.08	217.6	-10.1	-0.60
DCVX36		270.5	30.2	2.05	232.8	5.2	0.31
E7MURW		248.0	7.7	0.52	204.5	-23.1	-1.38
EZWQDY		234.7	-5.6	-0.38	227.4	-0.3	-0.02
FQP2J2	M	No data reported for this sample			225.6	-2.0	-0.12
GNFHPX		239.0	-1.4	-0.09	208.9	-18.8	-1.12
J4KJMW		232.8	-7.5	-0.51	220.5	-7.2	-0.43
JP3WDX	M	No data reported for this sample			209.1	-18.6	-1.11
K2EJ2P		234.5	-5.8	-0.39	239.0	11.4	0.68
KJUT3Q		241.7	1.4	0.09	241.3	13.7	0.82
PVRAVM		264.1	23.8	1.61	243.8	16.2	0.97
PXYH7T		256.1	15.8	1.07	220.2	-7.5	-0.45
TKXFVM		246.8	6.4	0.44	231.5	3.9	0.23
ZBTEWH		225.0	-15.3	-1.04	245.5	17.9	1.07
ZCVJ4B		225.5	-14.8	-1.00	232.5	4.9	0.29
ZJ33BG		239.2	-1.1	-0.07	243.9	16.3	0.97

Summary Statistics

	Sample B41-B42	Sample K41-K42
Grand Means	240.32 psi	227.63 psi
Stnd Dev Btwn Labs	14.75 psi	16.76 psi

Statistics based on 16 of 18 reporting participants

Summary Statistics in SI Units

	Sample B41-B42	Sample K41-K42
Grand Means	1.6569 MPa	1.5700 MPa
Stnd Dev Btwn Labs	0.1017 MPa	0.1200 MPa

Statistics based on 16 of 18 reporting participants

Samples B41-B42: Polyisoprene Compound & K41-K42: Polyisoprene Compound

Comments on Assigned Data Flags for Test #633

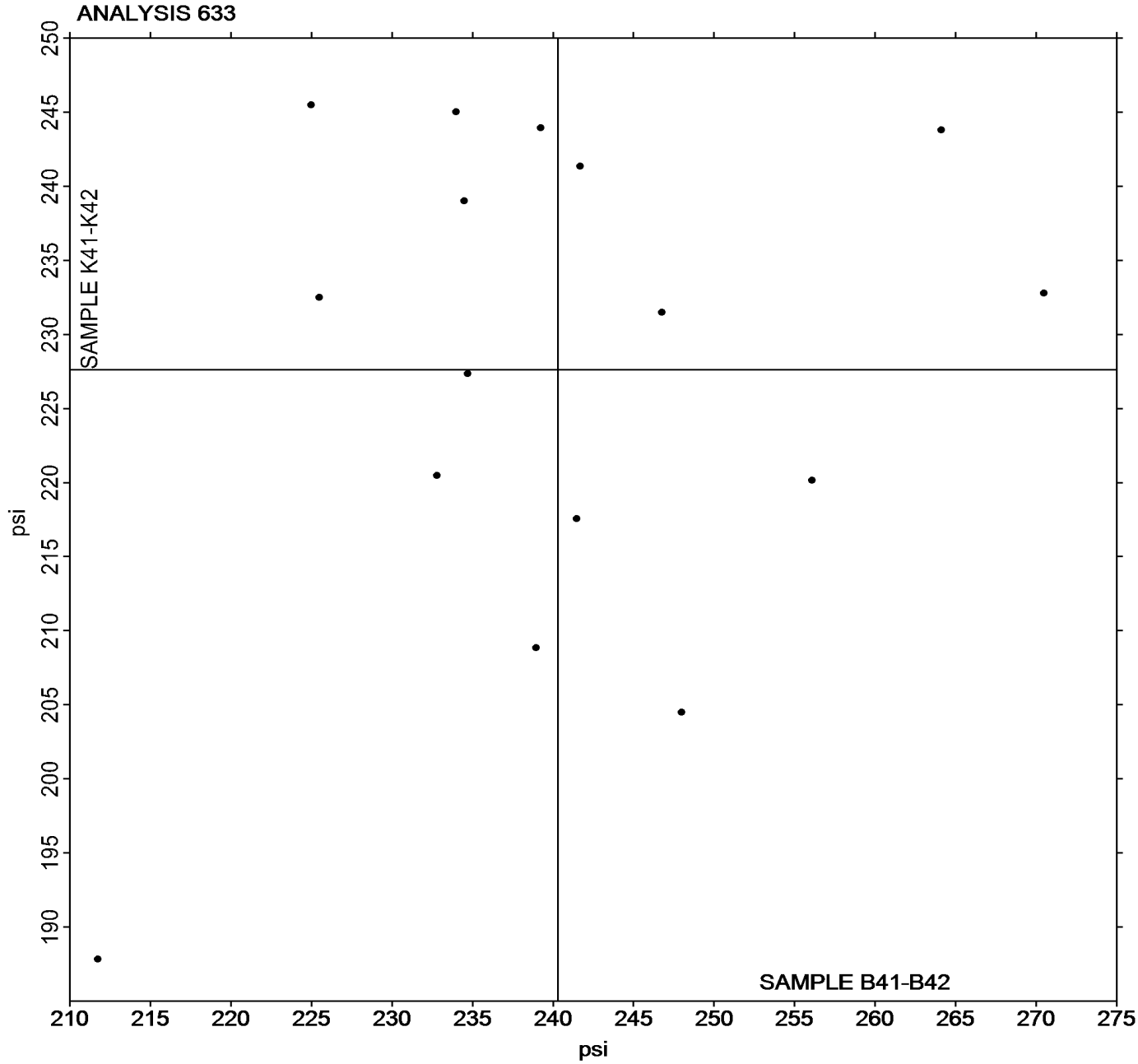
FQP2J2 (M) - Participant did not submit data for sample group B41-B42.

JP3WDX (M) - Participant did not submit data for sample group B41-B42.

Stress at 100% Elongation: Precured vs. Lab-Cured Samples (psi)

Grand Mean Sample **B41-B42** = 240.32 psi

Grand Mean Sample **K41-K42** = 227.63 psi



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

WebCode	Data Flag	Sample O41 Lab Mean	Sample O41 Diff from Grand Mean	Sample O41 CPV	Sample O42 Lab Mean	Sample O42 Diff from Grand Mean	Sample O42 CPV
2CUYZ9		41.33	-2.05	-0.28	41.33	-1.90	-0.28
36DPAQ		41.13	-2.25	-0.31	39.70	-3.53	-0.53
472QJ8		50.26	6.88	0.95	42.96	-0.27	-0.04
77TKV9		33.50	-9.88	-1.37	34.00	-9.23	-1.38
7ATPV9	*	51.67	8.28	1.15	42.33	-0.90	-0.13
8FXRB9	X	97.11	53.72	7.44	101.03	57.80	8.67
9833D6		42.00	-1.38	-0.19	43.00	-0.23	-0.03
AJ6YQ4		45.83	2.45	0.34	46.68	3.45	0.52
BWV786		38.20	-5.18	-0.72	37.30	-5.93	-0.89
D7NDVY		41.06	-2.32	-0.32	41.08	-2.15	-0.32
DCVX36		53.67	10.28	1.42	56.33	13.10	1.96
EZWQDY		45.93	2.55	0.35	44.05	0.82	0.12
GKGX9T		42.00	-1.38	-0.19	43.00	-0.23	-0.03
GNFHPX		46.34	2.95	0.41	42.01	-1.22	-0.18
HH8CXX		37.53	-5.86	-0.81	42.23	-1.00	-0.15
K69KVR		40.67	-2.72	-0.38	38.67	-4.56	-0.68
KA7YQU		43.67	0.28	0.04	41.33	-1.90	-0.28
LZVW6T		57.23	13.85	1.92	55.46	12.23	1.83
PD8JWN		36.00	-7.38	-1.02	36.33	-6.90	-1.03
PVRAVM		59.30	15.92	2.21	60.37	17.14	2.57
PWHLET		50.00	6.62	0.92	53.33	10.10	1.52
QG3RFN		35.48	-7.90	-1.09	37.24	-5.99	-0.90
QK33BN		36.92	-6.46	-0.90	43.43	0.20	0.03
QUW29P		39.07	-4.32	-0.60	38.77	-4.46	-0.67
QZG9MN		38.53	-4.85	-0.67	37.67	-5.56	-0.83
R8A28M		48.37	4.98	0.69	47.57	4.34	0.65
RVMMEL	X	14.33	-29.05	-4.03	15.67	-27.56	-4.13
TKXFVM		50.33	6.95	0.96	47.67	4.44	0.67
X9RUWD		52.17	8.78	1.22	54.60	11.37	1.71
XY2ELF		29.00	-14.38	-1.99	33.33	-9.90	-1.48
YL97MD		44.99	1.60	0.22	45.06	1.83	0.27
YRHCED		44.67	1.28	0.18	40.33	-2.90	-0.43
Z4PRK9		32.67	-10.72	-1.49	35.33	-7.90	-1.18
ZBTEWH		38.81	-4.58	-0.63	40.90	-2.33	-0.35

Summary Statistics		
Grand Means		
	43.385 % Compression	43.231 % Compression
Stnd Dev Btwn Labs		
	7.217 % Compression	6.668 % Compression

Statistics based on 32 of 34 reporting participants

Samples O41: EPDM Compound & O42: EPDM Compound

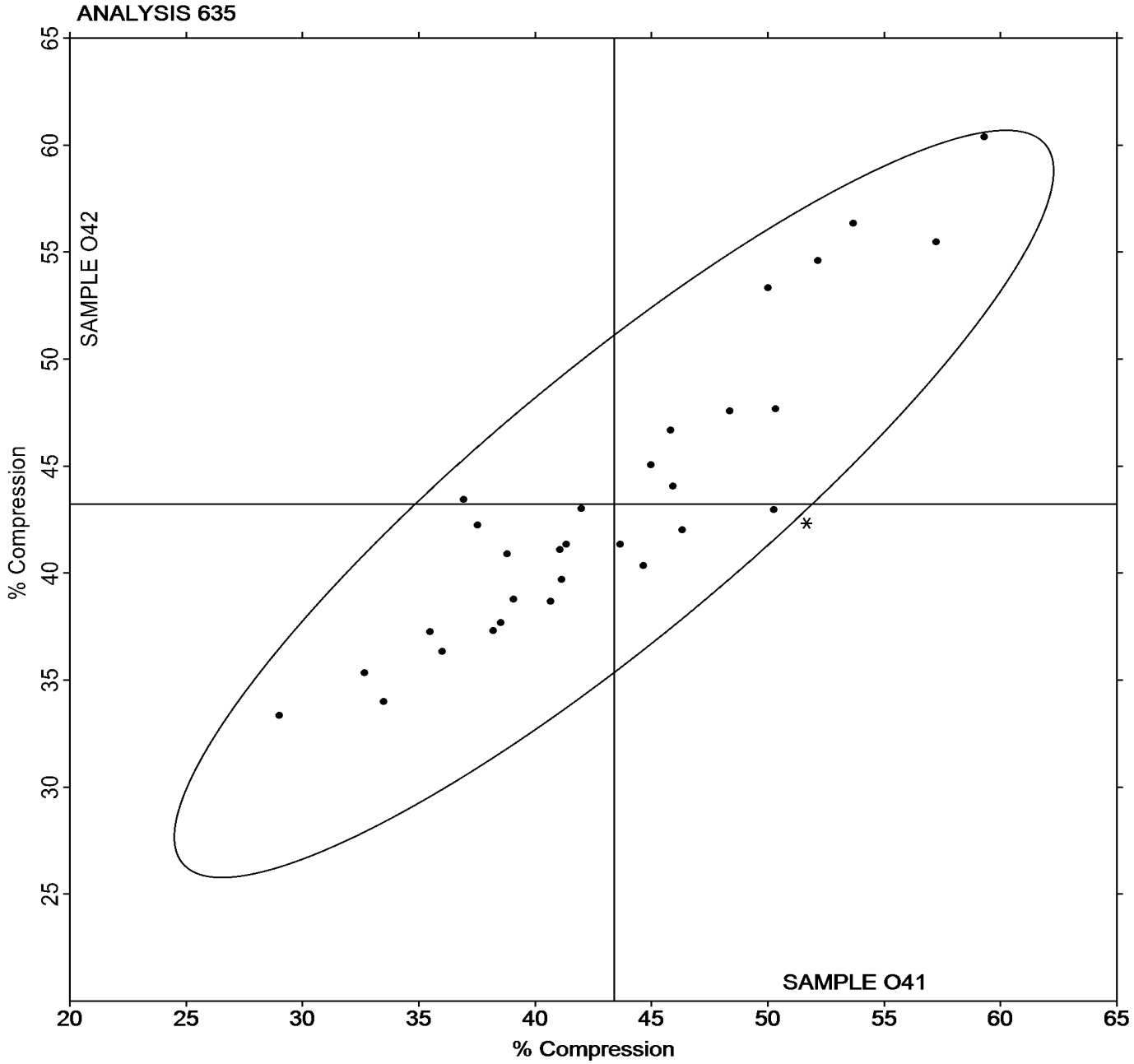
Comments on Assigned Data Flags for Test #635

8FXRB9 (X) - Extreme data.

RVMMEL (X) - Data for all samples are low.

Grand Mean Sample **O41** = 43.385 % Compression

Grand Mean Sample **O42** = 43.231 % Compression



WebCode	Data Flag	Sample RB41 Lab Mean	Sample RB41 Diff from Grand Mean	Sample RB41 CPV	Sample RB42 Lab Mean	Sample RB42 Diff from Grand Mean	Sample RB42 CPV
7ATPV9		2,400.2	-4.6	-0.09	2,384.6	-36.5	-0.56
DKBGL6		2,429.0	24.2	0.50	2,417.0	-4.1	-0.06
FQP2J2		2,438.5	33.7	0.69	2,483.5	62.4	0.95
GNFHPX		2,424.2	19.4	0.40	2,422.2	1.0	0.02
K69KVR		2,302.8	-102.0	-2.09	2,370.0	-51.1	-0.78
PD8JWN		2,403.2	-1.6	-0.03	2,316.2	-104.9	-1.60
PRQEVK		2,398.9	-5.9	-0.12	2,442.5	21.3	0.32
RVMMEL		2,502.8	98.0	2.01	2,483.4	62.3	0.95
TKXFVM		2,358.0	-46.8	-0.96	2,378.8	-42.3	-0.64
X9RUWD		2,369.4	-35.4	-0.73	2,527.8	106.7	1.62
XKHKGG		2,445.6	40.8	0.84	2,506.8	85.7	1.30
Z4PRK9		2,372.0	-32.8	-0.67	2,331.6	-89.5	-1.36
ZBTEWH		2,417.8	13.0	0.27	2,410.2	-10.9	-0.17

Summary Statistics

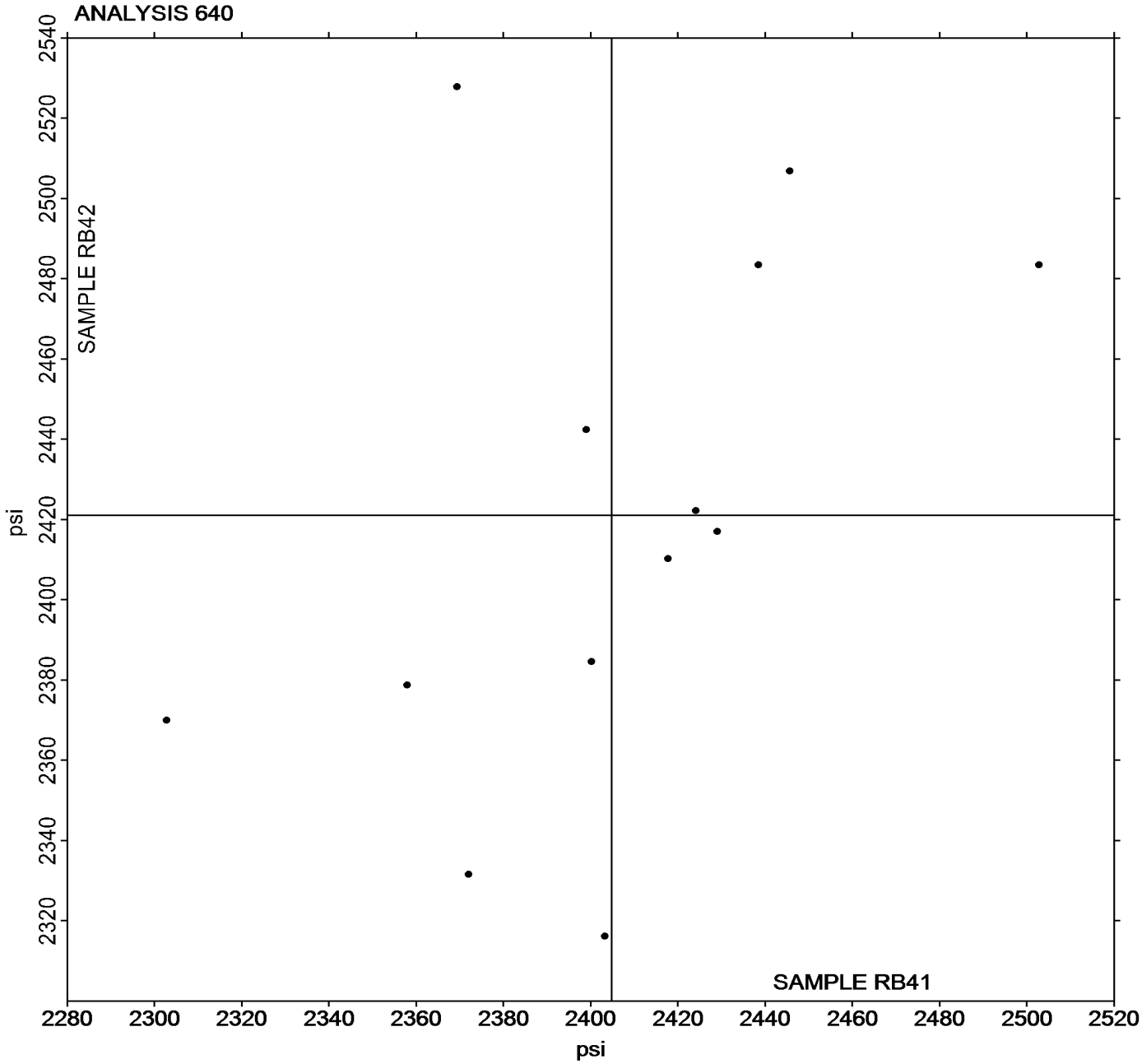
	Sample RB41	Sample RB42
Grand Means	2,404.80 psi	2,421.12 psi
Stnd Dev Btwn Labs	48.74 psi	65.73 psi

Statistics based on 13 of 13 reporting participants

Samples RB41: Nitrile O-Ring & RB42: Nitrile O-Ring

Grand Mean Sample **RB41** = 2,404.80 psi

Grand Mean Sample **RB42** = 2,421.12 psi



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

O-Ring Ultimate Elongation (%)

WebCode	Data Flag	Sample RB41 Lab Mean	Sample RB41 Diff from Grand Mean	Sample RB41 CPV	Sample RB42 Lab Mean	Sample RB42 Diff from Grand Mean	Sample RB42 CPV
7ATPV9		401.6	16.8	0.45	395.2	8.2	0.21
DKBGL6		413.6	28.8	0.77	412.0	25.0	0.63
FQP2J2		398.1	13.3	0.35	420.1	33.0	0.84
GNFHPX		440.7	55.9	1.49	436.9	49.9	1.27
K69KVR		351.0	-33.8	-0.90	364.4	-22.6	-0.57
PD8JWN		370.8	-14.0	-0.37	337.4	-49.6	-1.26
PRQEVK		376.0	-8.8	-0.24	372.6	-14.4	-0.37
RVMMEL		419.0	34.2	0.91	409.8	22.8	0.58
TKXFVM		395.0	10.2	0.27	405.0	18.0	0.46
X9RUWD		346.4	-38.4	-1.02	388.2	1.2	0.03
XKHKGG		399.0	14.2	0.38	421.2	34.2	0.87
Z4PRK9		295.6	-89.2	-2.38	291.8	-95.2	-2.42
ZBTEWH		395.8	11.0	0.29	376.8	-10.2	-0.26

Summary Statistics

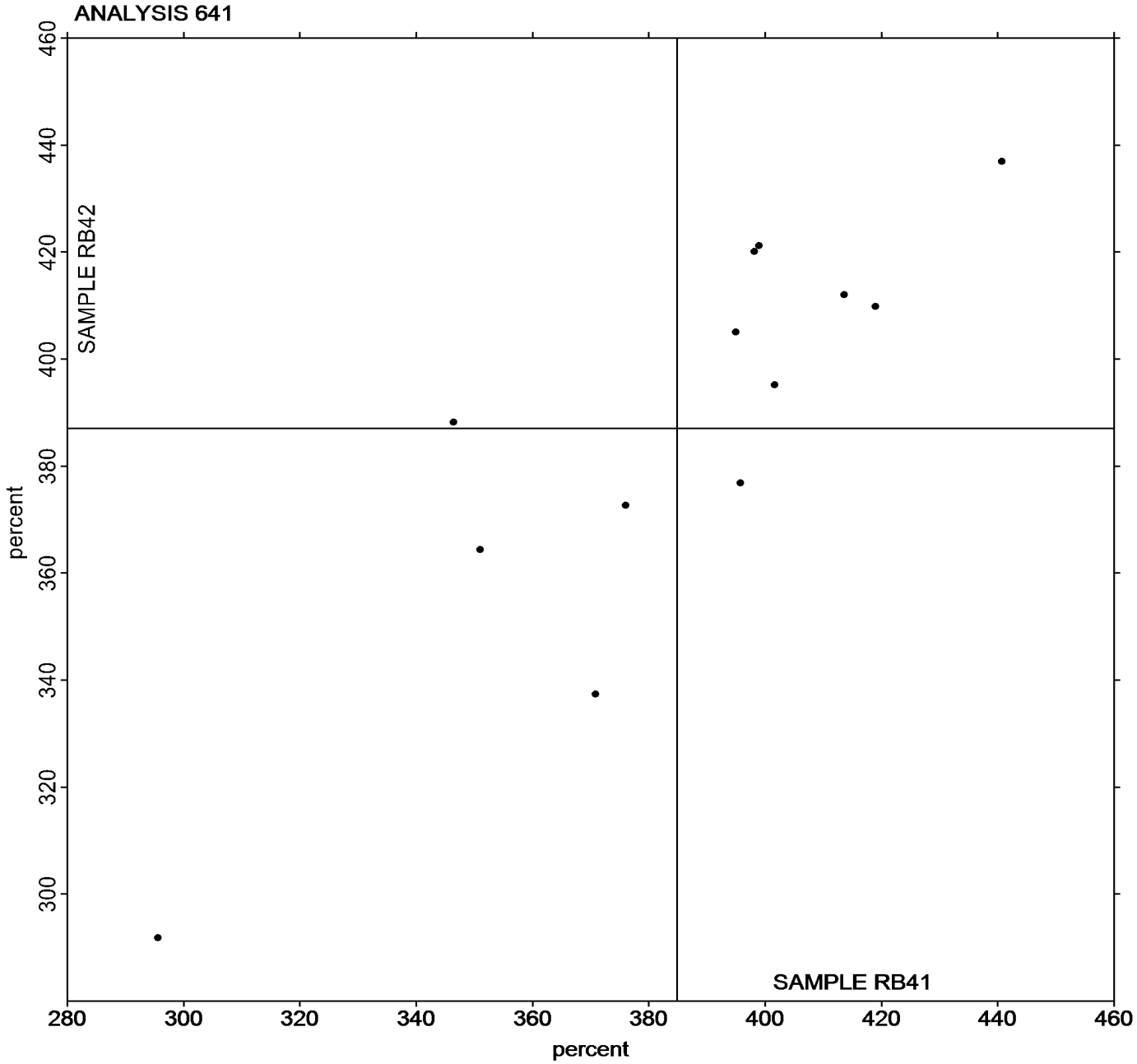
	Sample RB41	Sample RB42
Grand Means	384.82 percent	387.03 percent
Stnd Dev Btwn Labs	37.48 percent	39.41 percent

Statistics based on 13 of 13 reporting participants

Samples RB41: Nitrile O-Ring & RB42: Nitrile O-Ring

Grand Mean Sample **RB41** = 384.82 percent

Grand Mean Sample **RB42** = 387.03 percent



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

O-Ring Stress at 100% Elongation (psi)

WebCode	Data Flag	Sample RB41 Lab Mean	Sample RB41 Diff from Grand Mean	Sample RB41 CPV	Sample RB42 Lab Mean	Sample RB42 Diff from Grand Mean	Sample RB42 CPV
7ATPV9		439.2	-6.2	-0.08	453.4	3.5	0.04
DKBGL6		507.2	61.8	0.83	517.4	67.5	0.82
FQP2J2		383.7	-61.7	-0.83	379.4	-70.5	-0.85
GNFHPX		312.4	-133.0	-1.80	309.8	-140.1	-1.69
K69KVR		538.2	92.8	1.25	563.6	113.7	1.37
PD8JWN		538.8	93.4	1.26	537.2	87.3	1.06
PRQEVK		426.4	-19.0	-0.26	438.0	-11.9	-0.14
RVMMEL		520.8	75.4	1.02	545.2	95.3	1.15
TKXFVM		385.4	-60.0	-0.81	385.8	-64.1	-0.77
XKHKGG		451.2	5.8	0.08	442.2	-7.7	-0.09
ZBTEWH		395.8	-49.6	-0.67	376.8	-73.1	-0.88

Summary Statistics

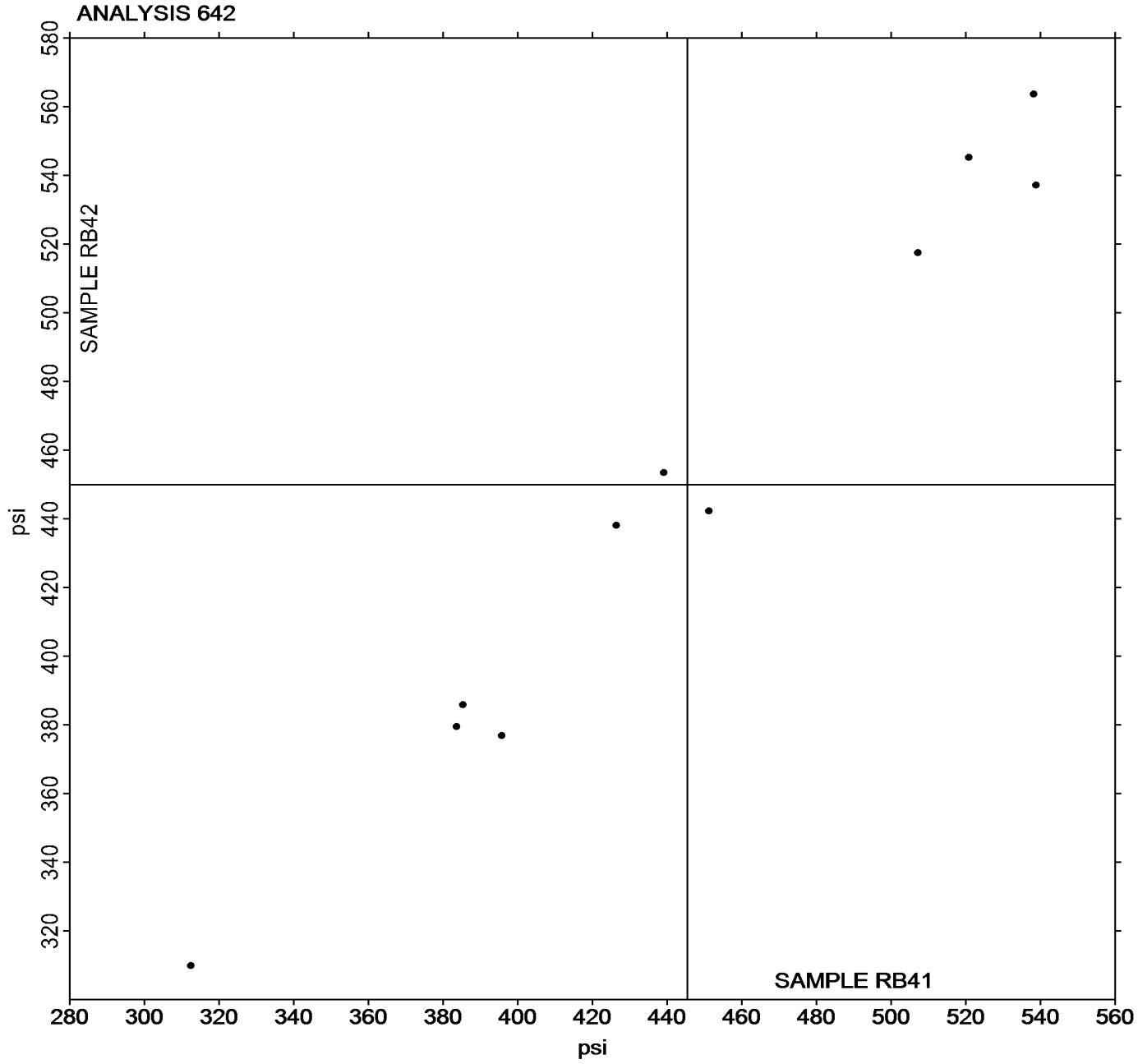
	Sample RB41	Sample RB42
Grand Means	445.37 psi	449.89 psi
Stnd Dev Btwn Labs	74.05 psi	82.73 psi

Statistics based on 11 of 11 reporting participants

Samples RB41: Nitrile O-Ring & RB42: Nitrile O-Ring

Grand Mean Sample **RB41** = 445.37 psi

Grand Mean Sample **RB42** = 449.89 psi



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

WebCode	Data Flag	Sample RB41 Lab Mean	Sample RB41 Diff from Grand Mean	Sample RB41 CPV	Sample RB42 Lab Mean	Sample RB42 Diff from Grand Mean	Sample RB42 CPV
7ATPV9		71.60	1.67	0.54	72.00	1.80	0.58
DKBGL6		70.40	0.48	0.15	70.20	0.00	0.00
FQP2J2		70.78	0.86	0.28	70.92	0.72	0.23
GNFHPX		68.48	-1.45	-0.47	68.32	-1.88	-0.61
K69KVR		74.60	4.67	1.50	74.40	4.20	1.35
PD8JWN		69.50	-0.42	-0.14	69.56	-0.64	-0.21
PRQEVK		69.40	-0.52	-0.17	70.00	-0.20	-0.07
RVMMEL		62.20	-7.72	-2.49	62.80	-7.40	-2.39
TKXFVM		68.10	-1.83	-0.59	68.64	-1.56	-0.50
Z2K2FE		73.20	3.28	1.05	74.80	4.60	1.48
Z4PRK9		71.80	1.88	0.60	71.40	1.20	0.39
ZBTEWH		69.04	-0.89	-0.28	69.40	-0.80	-0.26

Summary Statistics

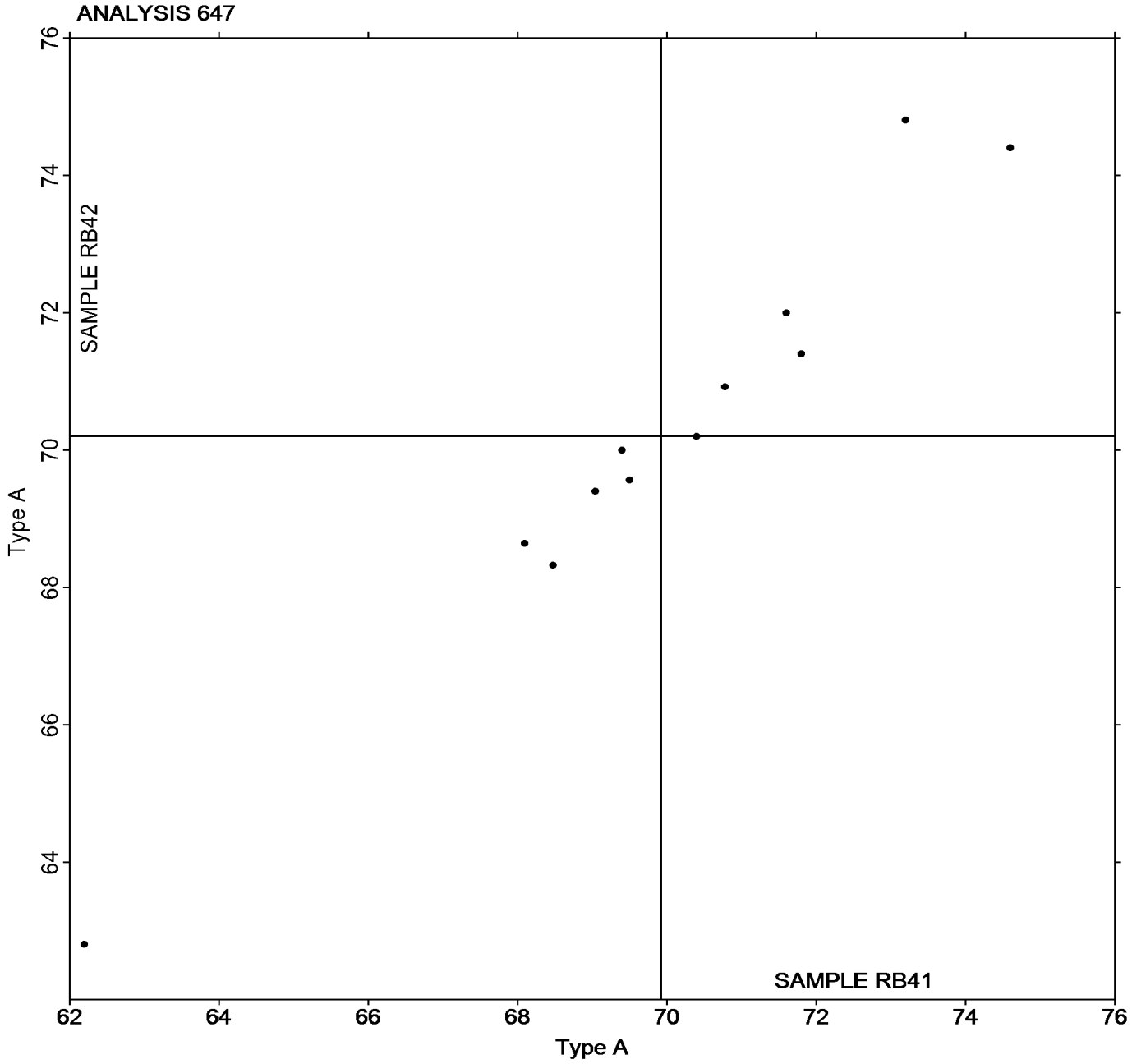
	Sample RB41	Sample RB42
Grand Means	69.925 Type A	70.203 Type A
Stnd Dev Btwn Labs	3.107 Type A	3.102 Type A

Statistics based on 12 of 12 reporting participants

Samples RB41: Nitrile O-Ring & RB42: Nitrile O-Ring

Grand Mean Sample **RB41** = 69.925 Type A

Grand Mean Sample **RB42** = 70.203 Type A



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

WebCode	Data Flag	Sample RB41 Lab Mean	Sample RB41 Diff from Grand Mean	Sample RB41 CPV	Sample RB42 Lab Mean	Sample RB42 Diff from Grand Mean	Sample RB42 CPV
7ATPV9		77.06	2.48	0.60	77.78	3.15	0.75
DKBGL6		75.80	1.22	0.30	75.40	0.77	0.18
K69KVR		74.56	-0.02	-0.01	74.72	0.09	0.02
PD8JWN		76.16	1.58	0.38	76.62	1.99	0.48
PRQEVK		64.60	-9.98	-2.43	64.60	-10.03	-2.40
RVMMEL		75.40	0.82	0.20	74.88	0.25	0.06
TKXFVM		76.24	1.66	0.40	76.32	1.69	0.40
ZBTEWH		76.84	2.26	0.55	76.74	2.11	0.50

Summary Statistics

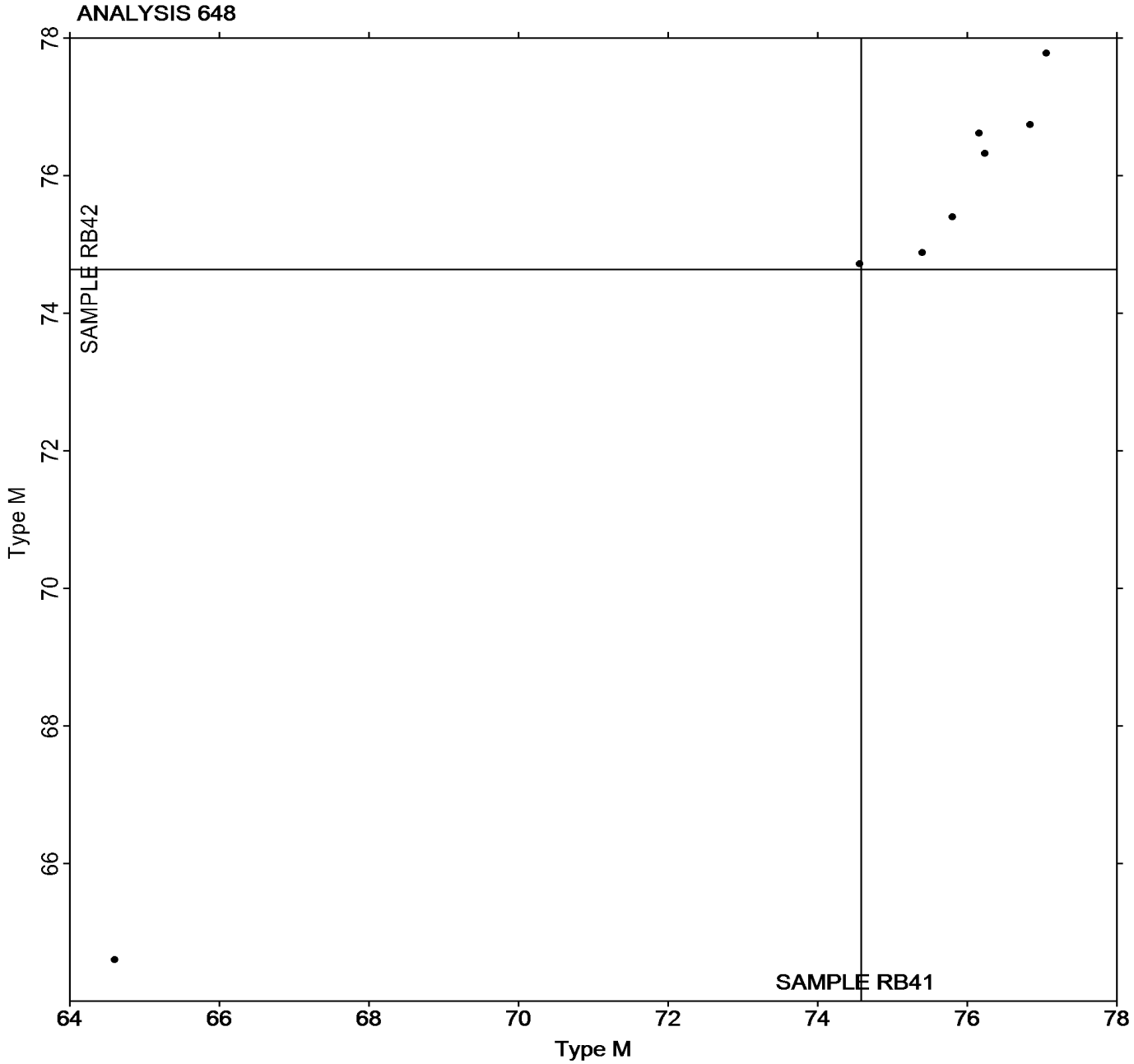
	Sample RB41	Sample RB42
Grand Means	74.583 Type M	74.633 Type M
Stnd Dev Btwn Labs	4.110 Type M	4.183 Type M

Statistics based on 8 of 8 reporting participants

Samples RB41: Nitrile O-Ring & RB42: Nitrile O-Ring

Grand Mean Sample **RB41** = 74.583 Type M

Grand Mean Sample **RB42** = 74.633 Type M



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

WebCode	Data Flag	Sample RB41 Lab Mean	Sample RB41 Diff from Grand Mean	Sample RB41 CPV	Sample RB42 Lab Mean	Sample RB42 Diff from Grand Mean	Sample RB42 CPV
7ATPV9		1.202	-0.002	-0.48	1.205	0.000	-0.08
DKBGL6		1.199	-0.005	-1.03	1.202	-0.004	-0.68
FQP2J2		1.200	-0.004	-0.82	1.203	-0.003	-0.60
GNFHPX		1.207	0.003	0.65	1.206	0.000	0.06
K69KVR		1.204	-0.001	-0.13	1.210	0.004	0.83
PD8JWN		1.206	0.002	0.37	1.205	-0.001	-0.15
PRQEVK		1.208	0.004	0.84	1.211	0.005	1.00
RVMMEL		1.204	0.000	-0.01	1.200	-0.006	-1.05
TKXFVM		1.202	-0.003	-0.59	1.200	-0.006	-1.17
X9RUWD		1.211	0.007	1.40	1.213	0.007	1.28
XKHKGG		1.197	-0.007	-1.50	1.201	-0.005	-0.91
Z2K2FE		1.201	-0.003	-0.65	1.204	-0.001	-0.27
Z4PRK9		1.214	0.010	2.17	1.218	0.012	2.27
ZBTEWH		1.203	-0.001	-0.23	1.203	-0.003	-0.52

Summary Statistics

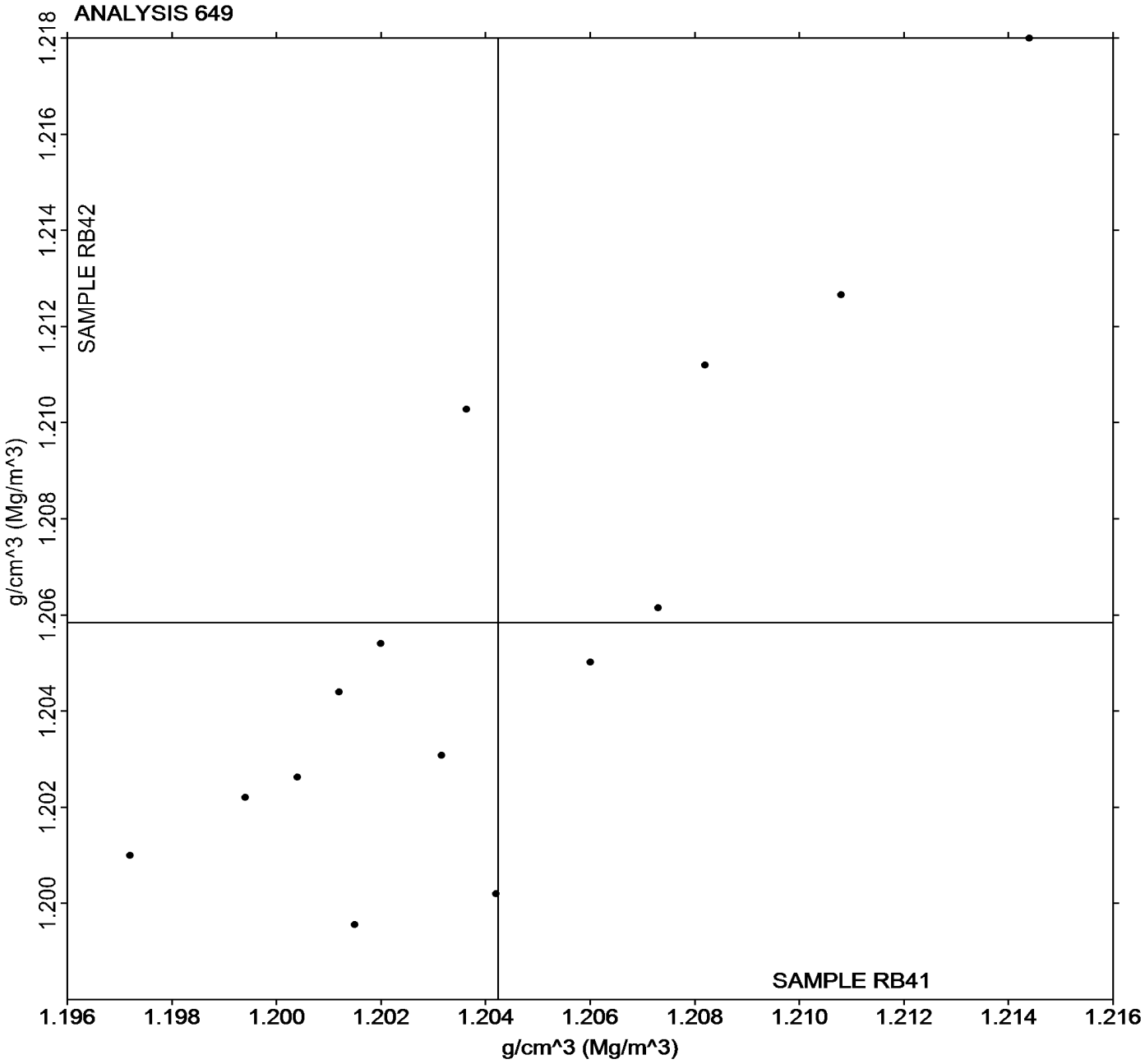
	Sample RB41	Sample RB42
Grand Means	1.2042 g/cm^3 (Mg/m^3)	1.2058 g/cm^3 (Mg/m^3)
Stnd Dev Btwn Labs	0.0047 g/cm^3 (Mg/m^3)	0.0053 g/cm^3 (Mg/m^3)

Statistics based on 14 of 14 reporting participants

Samples RB41: Nitrile O-Ring & RB42: Nitrile O-Ring

Grand Mean Sample **RB41** = 1.2042 g/cm^3 (Mg/m^3)

Grand Mean Sample **RB42** = 1.2058 g/cm^3 (Mg/m^3)



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

WebCode	Data Flag	Sample RB43 Lab Mean	Sample RB43 Diff from Grand Mean	Sample RB43 CPV	Sample RB44 Lab Mean	Sample RB44 Diff from Grand Mean	Sample RB44 CPV
7ATPV9		8.333	-0.048	-0.04	7.400	-0.765	-0.61
DKBGL6		6.733	-1.648	-1.43	5.767	-2.398	-1.92
FQP2J2		6.867	-1.514	-1.31	6.867	-1.298	-1.04
GNFHPX		10.344	1.963	1.70	9.206	1.041	0.83
K69KVR		8.000	-0.381	-0.33	9.000	0.835	0.67
PD8JWN		8.000	-0.381	-0.33	8.000	-0.165	-0.13
RVMMEL		9.333	0.952	0.83	9.333	1.169	0.94
TKXFVM		9.000	0.619	0.54	9.000	0.835	0.67
X9RUWD	X	20.133	11.752	10.19	17.267	9.102	7.30
ZBTEWH		8.820	0.439	0.38	8.910	0.745	0.60

Summary Statistics

	Sample RB43	Sample RB44
Grand Means	8.3811 % Compression	8.1647 % Compression
Stnd Dev Btwn Labs	1.1530 % Compression	1.2474 % Compression

Statistics based on 9 of 10 reporting participants

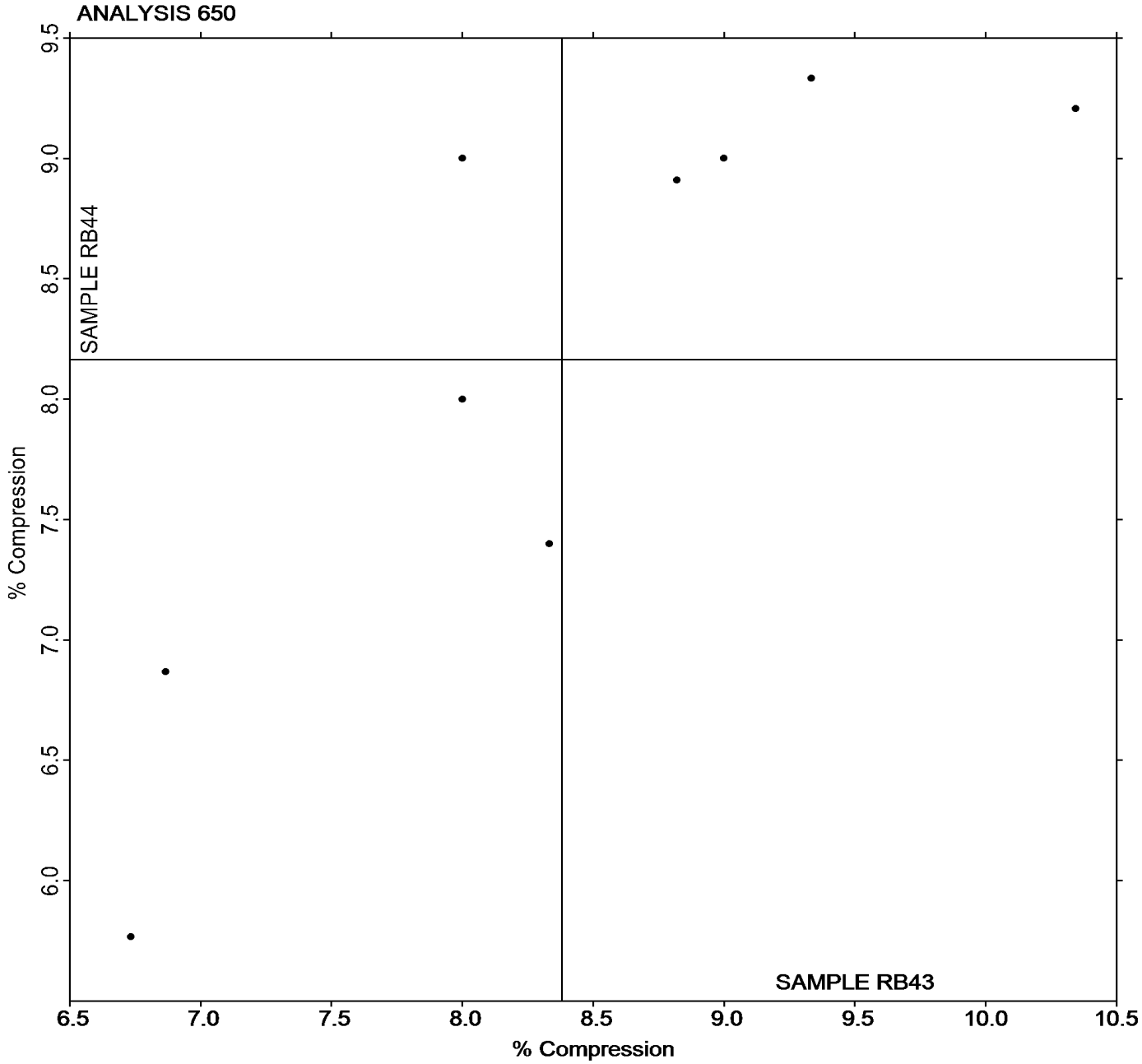
Samples RB43: Nitrile O-Ring & RB44: Nitrile O-Ring

Comments on Assigned Data Flags for Test #650

X9RUWD (X) - Data for all Samples are high.

Grand Mean Sample **RB43** = 8.3811 % Compression

Grand Mean Sample **RB44** = 8.1647 % Compression



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

Rubber Interlaboratory Testing Program

Report #220

Analysis 660

2nd Qtr 2024

Mooney Viscosity: 4-minute readings (ML 1 + 4)

WebCode	Data Flag	Sample T41-T42 Lab Mean	Diff from Grand Mean	CPV	Sample T43-T44 Lab Mean	Diff from Grand Mean	CPV	Instr Code
2CUYZ9		41.65	-0.81	-0.74	56.22	-1.29	-1.16	MR
7ATPV9		42.08	-0.38	-0.34	57.35	-0.16	-0.14	MR
B24CY6		42.90	0.44	0.40	58.40	0.89	0.80	MR
C47ME6		41.13	-1.33	-1.20	57.14	-0.37	-0.33	MV
D7NDVY		40.60	-1.87	-1.69	56.35	-1.15	-1.03	MR
EEG7GY		43.77	1.30	1.18	58.98	1.48	1.32	MR
GNFHPX		43.13	0.67	0.61	57.68	0.17	0.16	ML
HRBPUR		41.35	-1.12	-1.01	56.33	-1.18	-1.06	MR
J4KJMW		41.05	-1.41	-1.28	56.73	-0.77	-0.69	MR
J8MMCX		42.41	-0.05	-0.04	56.94	-0.57	-0.51	MR
JN8DBW		41.97	-0.50	-0.45	56.80	-0.71	-0.63	MR
K2EJ2P		41.87	-0.60	-0.54	56.15	-1.36	-1.22	MR
KEE6HT		43.15	0.69	0.62	59.52	2.02	1.81	TA
KJUT3Q		41.88	-0.58	-0.53	56.84	-0.67	-0.60	MV
PRQEVK		42.90	0.44	0.40	57.58	0.07	0.07	MV
PXYH7T		42.59	0.13	0.12	56.69	-0.82	-0.74	MR
R4TC9J		42.48	0.02	0.02	57.75	0.24	0.22	MR
RBFCBH		44.02	1.55	1.41	59.08	1.58	1.41	MR
VUU87K		45.10	2.63	2.38	59.74	2.23	2.00	MR
ZCVJ4B		43.22	0.75	0.68	57.88	0.38	0.34	MR

Summary Statistics

	Sample T41-T42	Sample T43-T44
Grand Means	42.462 ML 1 + 4	57.507 ML 1 + 4
Stnd Dev Btwn Labs	1.104 ML 1 + 4	1.116 ML 1 + 4

Statistics based on 20 of 20 reporting participants

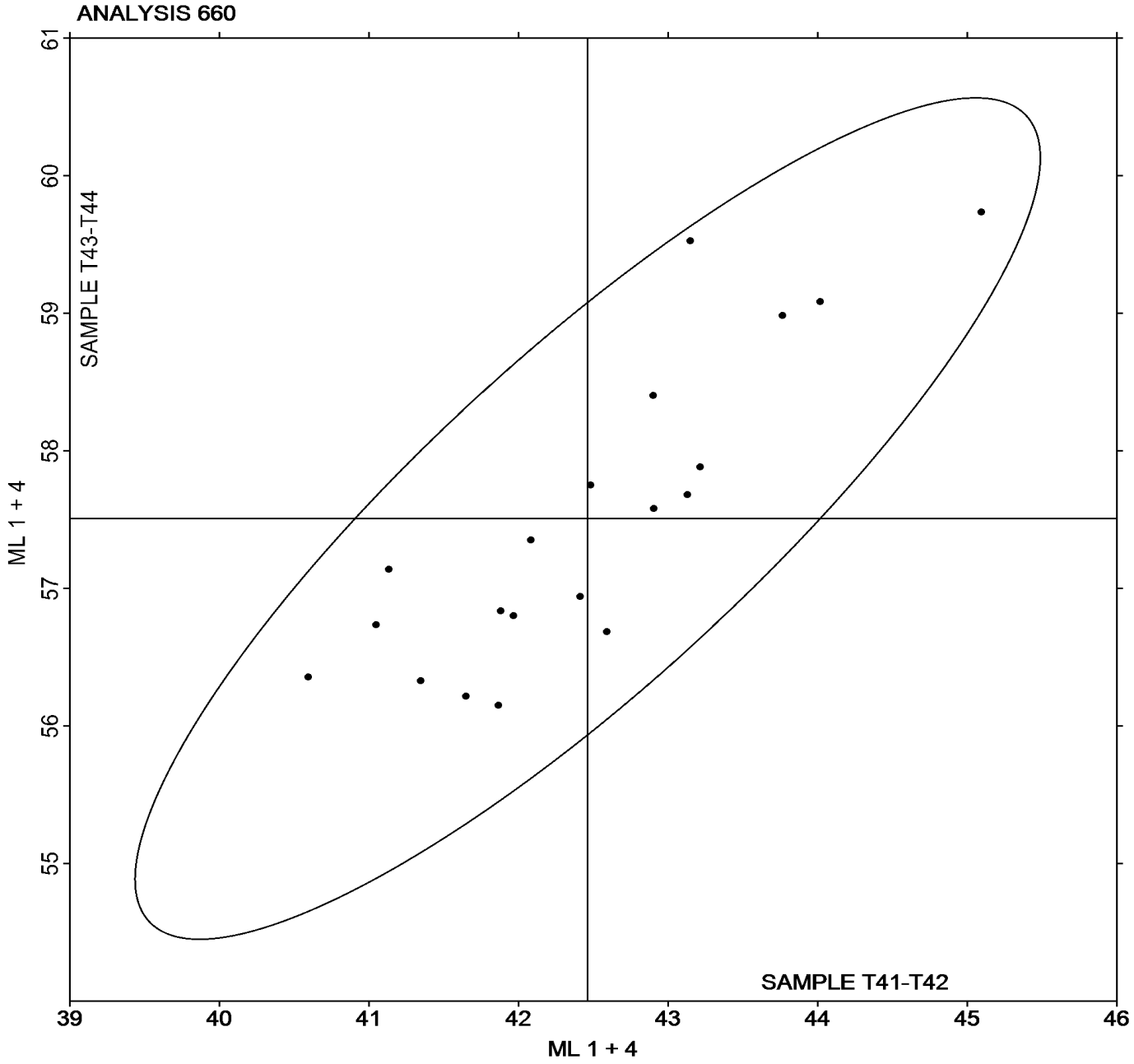
Samples T41-T42: SBR & T43-T44: Butyl

Key to Instrument Codes Reported by Participants

ML	Alpha Technologies/Monsanto model not specified	MR	Alpha Technologies Model MV2000/MV2000E
MV	MonTech	TA	TA Instruments (any model)

Grand Mean Sample **T41-T42** = 42.462 ML 1 + 4

Grand Mean Sample **T43-T44** = 57.507 ML 1 + 4



Mooney Viscosity: 4-min NBR/SBR & 8-min butyl readings (ML)

WebCode	Data Flag	Sample T41-T42 Lab Mean	Diff from Grand Mean	CPV	Sample T43-T44 Lab Mean	Diff from Grand Mean	CPV	Instr Code
2CUYZ9		41.65	-0.63	-0.64	53.17	-1.59	-1.62	MR
7ATPV9		42.08	-0.20	-0.20	54.22	-0.54	-0.55	MR
C47ME6		41.13	-1.15	-1.17	55.07	0.32	0.32	MV
D7NDVY		40.60	-1.68	-1.71	53.63	-1.13	-1.15	MR
EEG7GY		43.77	1.49	1.51	56.08	1.33	1.35	MR
GNFHPX		43.13	0.85	0.87	55.50	0.75	0.76	ML
HRBPUR		41.35	-0.94	-0.95	54.01	-0.75	-0.76	MR
J4KJMW		41.05	-1.23	-1.25	54.40	-0.36	-0.36	MR
J8MMCX		42.41	0.13	0.14	54.67	-0.09	-0.09	XX
JN8DBW		41.97	-0.31	-0.32	54.63	-0.12	-0.13	MR
K2EJ2P		41.87	-0.41	-0.42	53.72	-1.04	-1.06	MR
KEE6HT		43.15	0.87	0.88	56.80	2.04	2.08	TA
KJUT3Q		41.88	-0.40	-0.41	54.19	-0.57	-0.58	MV
PRQEVK		42.90	0.62	0.63	55.31	0.55	0.56	MV
PXYH7T		42.59	0.31	0.32	54.04	-0.72	-0.73	MR
RBFCBH		44.02	1.74	1.77	55.77	1.01	1.03	MR
VUU87K	X	45.10	2.81	2.86	38.68	-16.07	-16.36	MR
ZCVJ4B		43.22	0.94	0.95	55.67	0.91	0.93	MR

Summary Statistics

	Sample T41-T42	Sample T43-T44
Grand Means	42.280 ML 1 + 8	54.757 ML 1 + 8
Stnd Dev Btwn Labs	0.984 ML 1 + 8	0.983 ML 1 + 8

Statistics based on 17 of 18 reporting participants

Samples T41-T42: SBR & T43-T44: Butyl

Comments on Assigned Data Flags for Test #661

VUU87K (X) - Extreme Data for sample group T43-T44. Data for samples T41-T42 and inconsistent within the determinations of samples T41-T42.

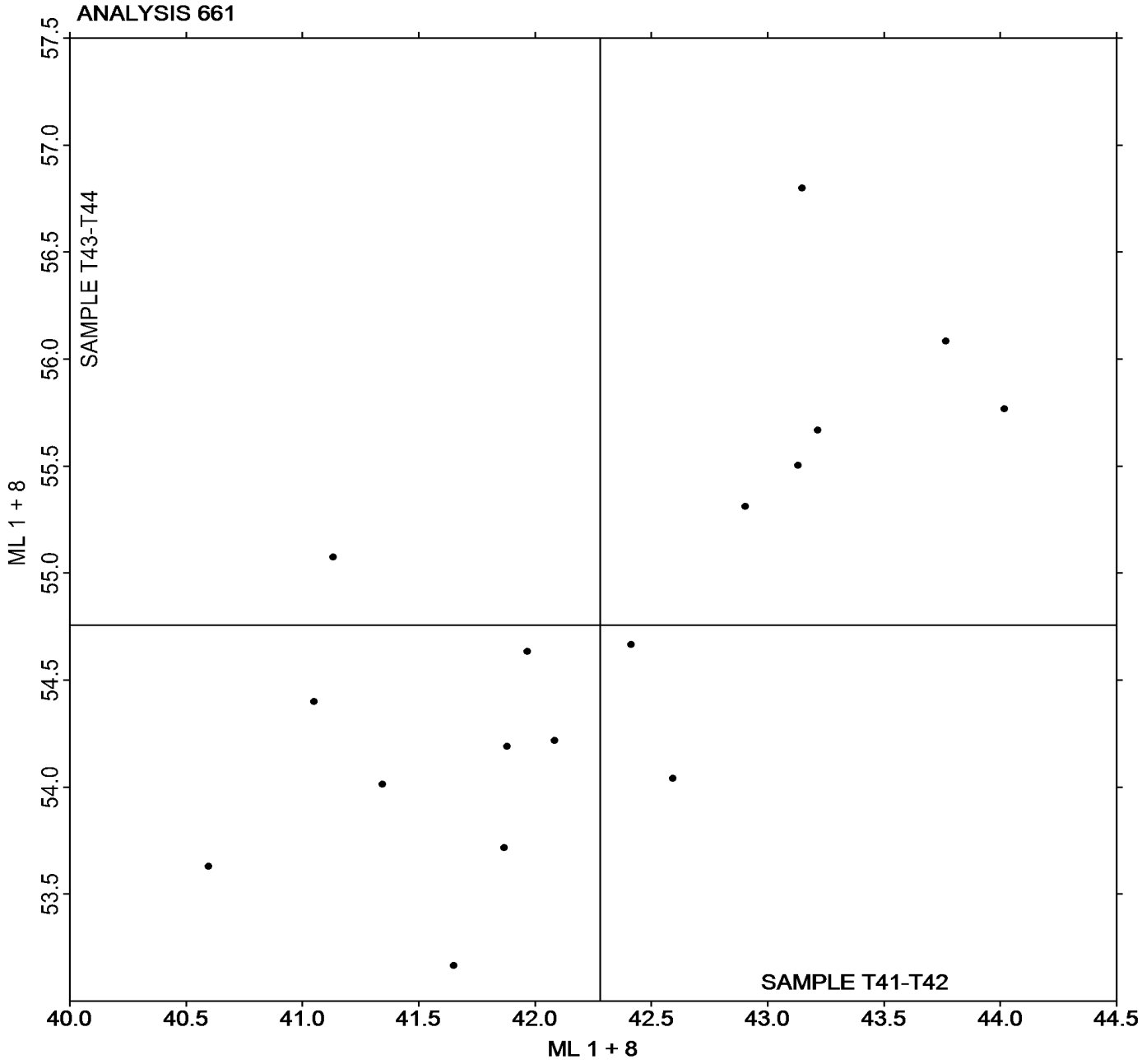
Key to Instrument Codes Reported by Participants

ML	Alpha Technologies/Monsanto model not specified	MR	Alpha Technologies Model MV2000/MV2000E
MV	Montech	TA	TA Instruments (any model)
XX	Instrument make/model not specified by lab		

Mooney Viscosity: 4-min NBR/SBR & 8-min butyl readings (ML)

Grand Mean Sample **T41-T42** = 42.280 ML 1 + 8

Grand Mean Sample **T43-T44** = 54.757 ML 1 + 8



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

WebCode	Data Flag	Sample T41-T42 Lab Mean	Diff from Grand Mean	CPV	Sample T43-T44 Lab Mean	Diff from Grand Mean	CPV	Instr Code
GNFHPX		12.11	1.84	0.61	8.722	0.521	0.36	ML
J4KJMW		13.47	3.20	1.05	9.340	1.139	0.79	MR
J8MMCX		7.40	-2.87	-0.94	8.800	0.599	0.41	MR
KJUT3Q		5.67	-4.60	-1.51	5.328	-2.873	-1.99	MV
PRQEVK		11.08	0.82	0.27	8.358	0.157	0.11	MV
ZCVJ4B		11.88	1.61	0.53	8.658	0.457	0.32	MR

Summary Statistics

	Sample T41-T42	Sample T43-T44
Grand Means	10.268 seconds	8.2011 seconds
Stnd Dev Btwn Labs	3.042 seconds	1.4431 seconds

Statistics based on 6 of 6 reporting participants

Samples T41-T42: SBR & T43-T44: Butyl

Key to Instrument Codes Reported by Participants

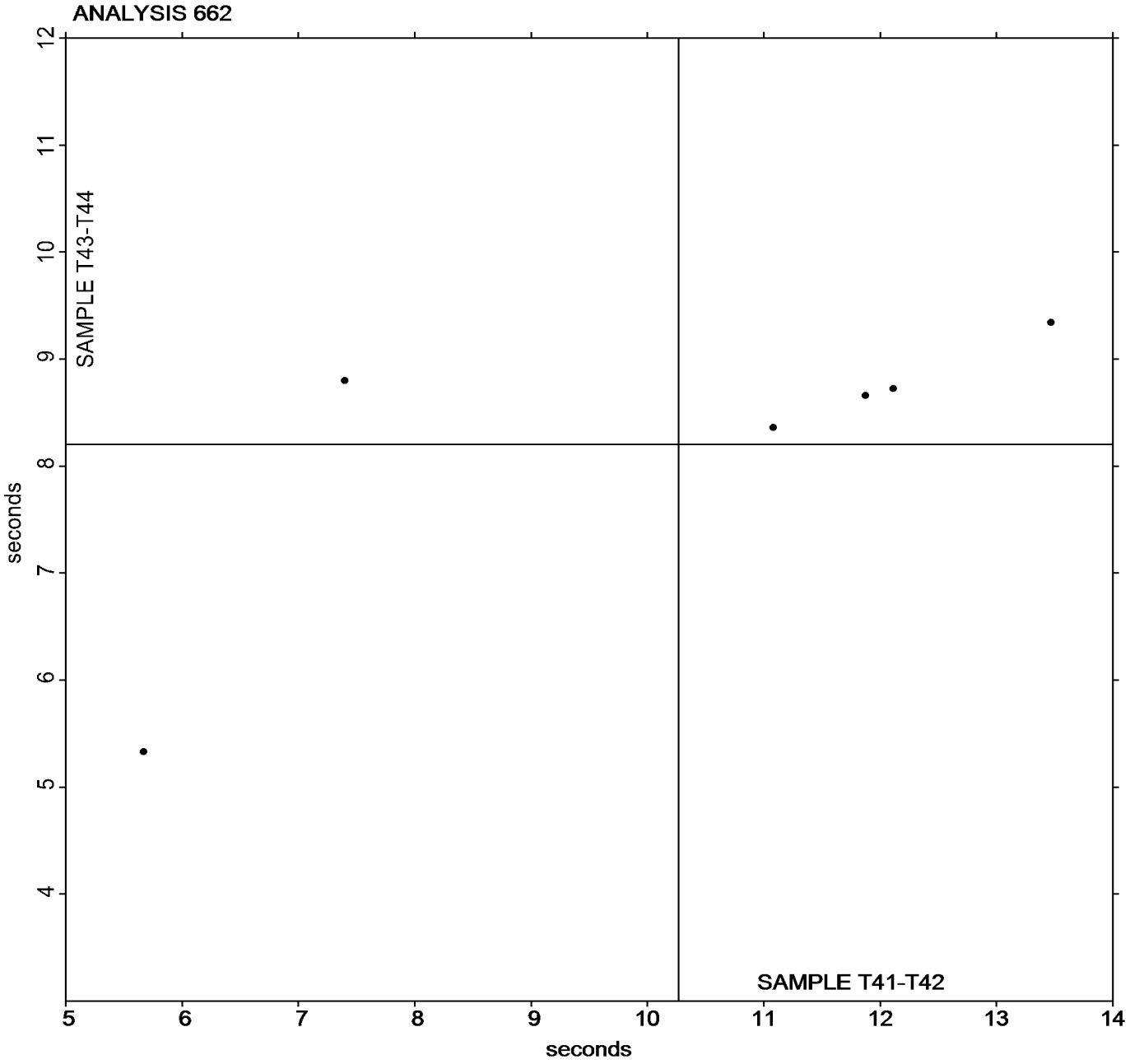
ML Alpha Technologies/Monsanto model not specified

MR Alpha Technologies Model MV2000/MV2000E

MV MonTech

Grand Mean Sample **T41-T42** = 10.268 seconds

Grand Mean Sample **T43-T44** = 8.2011 seconds



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

WebCode	Data Flag	Sample T41-T42 Lab Mean	Sample T41-T42 Diff from Grand Mean	Sample T41-T42 CPV	Sample T43-T44 Lab Mean	Sample T43-T44 Diff from Grand Mean	Sample T43-T44 CPV	Instr Code
GNFHPX		85.71	1.75	0.44	90.81	1.13	0.48	ML
J4KJMW		85.18	1.22	0.31	90.48	0.80	0.34	MR
J8MMCX	X	11.00	-72.96	-18.49	9.00	-80.67	-34.51	MR
KJUT3Q		76.93	-7.03	-1.78	85.50	-4.17	-1.79	MV
PRQEVK		86.10	2.14	0.54	90.81	1.13	0.48	MV
ZCVJ4B		85.88	1.92	0.49	90.78	1.11	0.47	MR

Summary Statistics

	Sample T41-T42	Sample T43-T44
Grand Means	83.957 percent	89.675 percent
Stnd Dev Btwn Labs	3.946 percent	2.338 percent

Statistics based on 5 of 6 reporting participants

Samples T41-T42: SBR & T43-T44: Butyl

Comments on Assigned Data Flags for Test #663

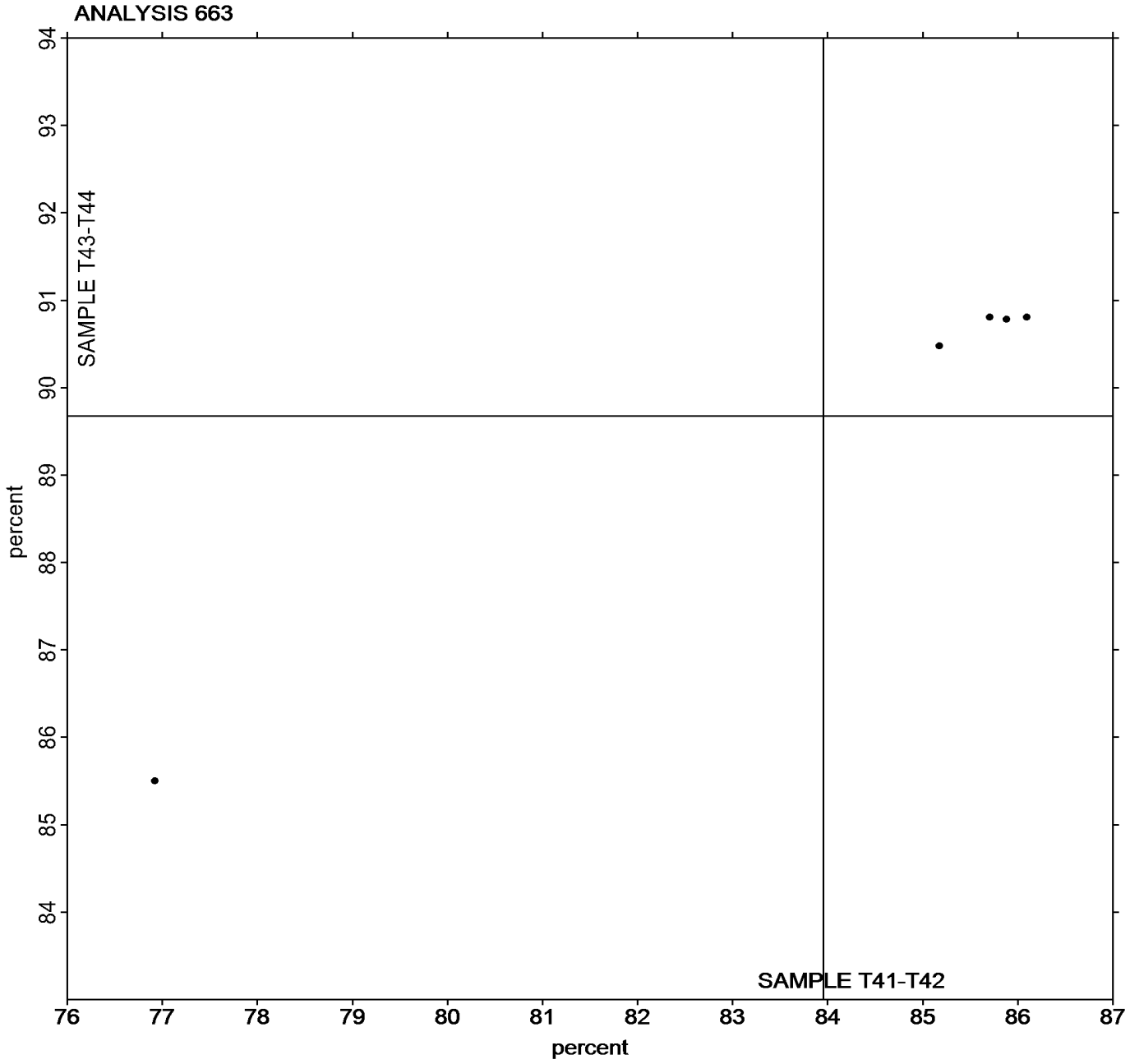
J8MMCX (X) - Extreme Data.

Key to Instrument Codes Reported by Participants

ML	Alpha Technologies/Monsanto model not specified	MR	Alpha Technologies Model MV2000/MV2000E
MV	Montech		

Grand Mean Sample **T41-T42** = 83.957 percent

Grand Mean Sample **T43-T44** = 89.675 percent



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

Mooney Stress Relaxation: Area under curve (M-s)

WebCode	Data Flag	Sample T41-T42 Lab Mean	Diff from Grand Mean	CPV	Sample T43-T44 Lab Mean	Diff from Grand Mean	CPV	Instr Code
GNFHPX		666.9	88.1	0.71	568.8	38.0	0.47	ML
J4KJMW		663.3	84.5	0.68	579.2	48.3	0.60	XX
J8MMCX		459.2	-119.6	-0.96	548.1	17.2	0.21	MR
KJUT3Q		384.5	-194.3	-1.56	368.5	-162.4	-2.02	MV
PRQEVK		641.1	62.2	0.50	554.0	23.1	0.29	MV
ZCVJ4B		658.0	79.2	0.64	566.7	35.8	0.45	MR

Summary Statistics

	Sample T41-T42	Sample T43-T44
Grand Means	578.84 M-s	530.86 M-s
Stnd Dev Btwn Labs	124.19 M-s	80.33 M-s

Statistics based on 6 of 6 reporting participants

Samples T41-T42: SBR & T43-T44: Butyl

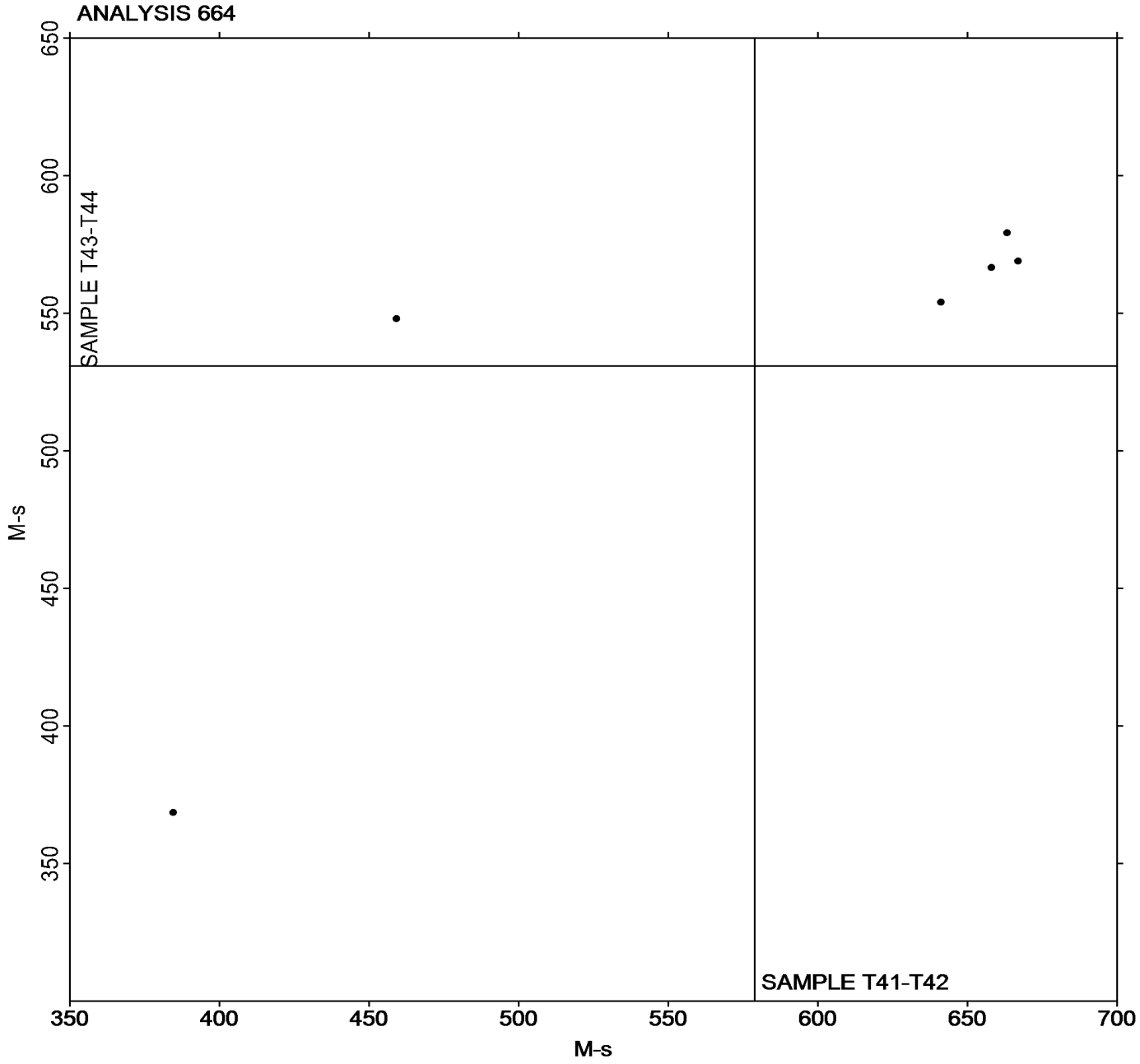
Key to Instrument Codes Reported by Participants

ML	Alpha Technologies/Monsanto model not specified	MR	Alpha Technologies Model MV2000/MV2000E
MV	MonTech	XX	Instrument make/model not specified by lab

Mooney Stress Relaxation: Area under curve (M-s)

Grand Mean Sample **T41-T42** = 578.84 M-s

Grand Mean Sample **T43-T44** = 530.86 M-s



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

WebCode	Data Flag	Sample X45-X46 Lab Mean	Sample X45-X46 Diff from Grand Mean	Sample X45-X46 CPV	Sample X47-X48 Lab Mean	Sample X47-X48 Diff from Grand Mean	Sample X47-X48 CPV	Instr Code
7ATPV9		0.9800	0.0134	0.16	0.9067	0.0271	0.37	MC
C47ME6		0.7933	-0.1733	-2.10	0.7467	-0.1329	-1.81	MC
D7NDVY		0.9717	0.0051	0.06	0.8467	-0.0329	-0.45	ME
DFXVDX		1.0600	0.0934	1.13	0.9400	0.0604	0.82	XX
DKBGL6		0.9722	0.0056	0.07	0.8834	0.0038	0.05	MC
EZWQDY		1.0000	0.0334	0.41	0.9050	0.0254	0.35	MC
FQP2J2		0.9400	-0.0266	-0.32	0.8750	-0.0046	-0.06	MC
GNFHPX		1.0583	0.0917	1.11	0.9167	0.0371	0.50	ME
HRBPUR		0.9200	-0.0466	-0.57	0.8817	0.0021	0.03	MC
K2EJ2P		0.9033	-0.0633	-0.77	0.8350	-0.0446	-0.61	MC
KJUT3Q		0.8767	-0.0899	-1.09	0.7883	-0.0913	-1.24	MR
MT9NVM		0.9850	0.0184	0.22	0.9250	0.0454	0.62	MM
PRQEVK		1.1400	0.1734	2.10	1.0683	0.1887	2.57	XX
PVRAVM		0.9900	0.0234	0.28	0.8483	-0.0313	-0.42	MC
PXYH7T		0.8600	-0.1066	-1.29	0.7683	-0.1113	-1.51	MC
R4TC9J		0.9000	-0.0666	-0.81	0.8467	-0.0329	-0.45	MC
TKXFVM		0.9783	0.0117	0.14	0.8783	-0.0013	-0.02	ME
UEATZG		0.9667	0.0001	0.00	0.8967	0.0171	0.23	ME
WRHRCJ		1.1000	0.1334	1.62	0.9950	0.1154	1.57	MR
XGJAJW	X	1.5183	0.5517	6.69	1.3067	0.4271	5.81	ME
ZCVJ4B		0.9367	-0.0299	-0.36	0.8400	-0.0396	-0.54	MC

Summary Statistics

	Sample X45-X46	Sample X47-X48
Grand Means	0.96661 minutes	0.87958 minutes
Stnd Dev Btwn Labs	0.08242 minutes	0.07356 minutes

Statistics based on 20 of 21 reporting participants

Samples X45-X46: EPDM Compound & X47-X48: EPDM Compound

Comments on Assigned Data Flags for Test #684

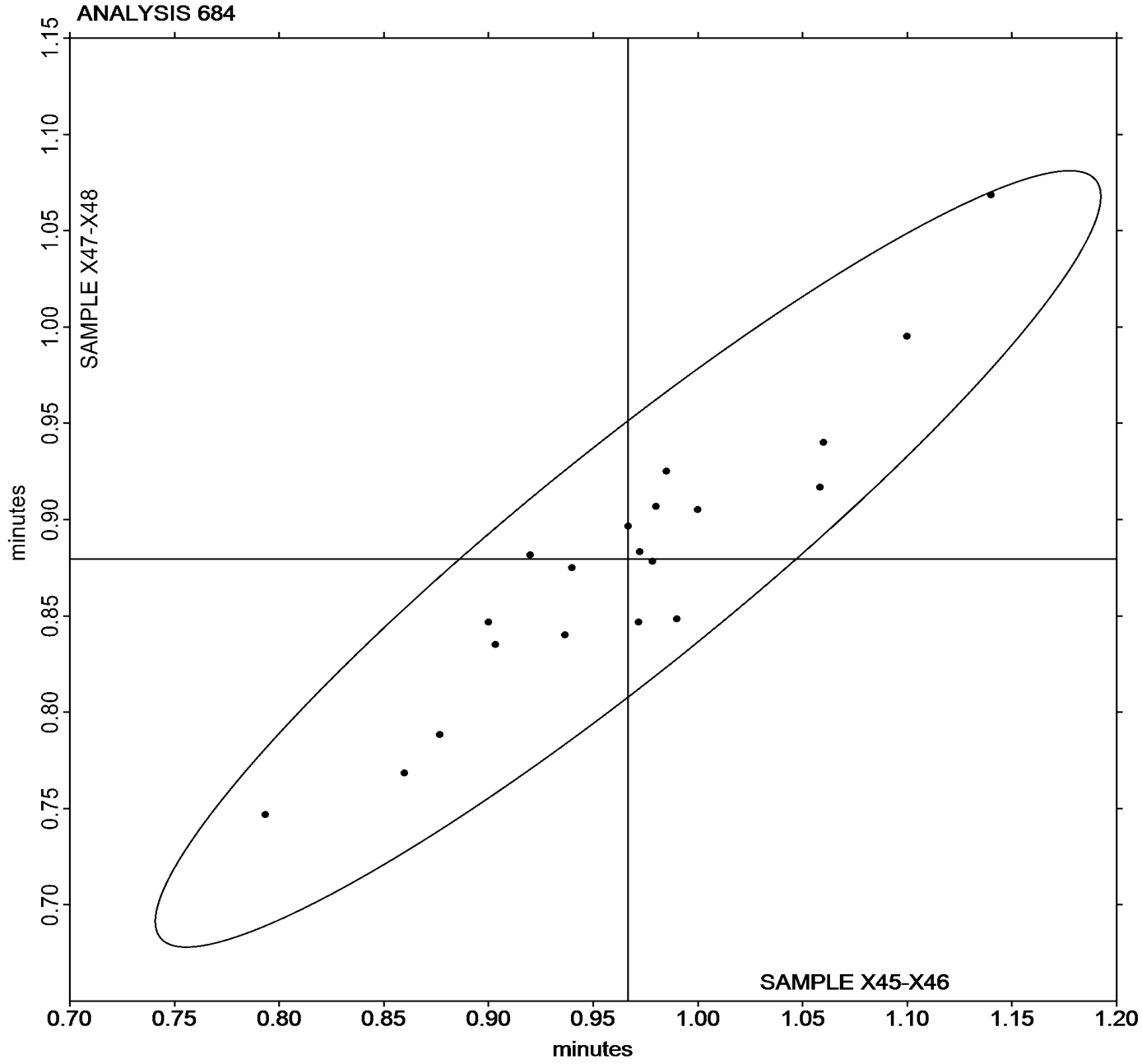
XGJAJW (X) - Data for all samples are high.

Key to Instrument Codes Reported by Participants

MC	Alpha Technologies [Monsanto] MDR 2000 or 2000E	ME	Alpha Tech. MDR Premiere
MM	MonTech MDR 3000	MR	MonTech D-RPA 3000
XX	Instrument model not specified by lab		

Grand Mean Sample **X45-X46** = 0.96661 minutes

Grand Mean Sample **X47-X48** = 0.87958 minutes



WebCode	Data Flag	Sample X45-X46 Lab Mean	Diff from Grand Mean	CPV	Sample X47-X48 Lab Mean	Diff from Grand Mean	CPV	Instr Code
7ATPV9		1.107	0.057	0.59	1.0200	0.0599	0.70	MC
ACR4UA		0.948	-0.101	-1.05	0.9050	-0.0551	-0.65	MC
C47ME6		0.867	-0.183	-1.89	0.8117	-0.1484	-1.74	MC
D7NDVY		1.045	-0.004	-0.05	0.9150	-0.0451	-0.53	ME
DFXVDX		1.188	0.139	1.44	1.0517	0.0916	1.07	MR
DKBGL6		1.081	0.031	0.32	0.9917	0.0316	0.37	MC
EZWQDY		1.082	0.032	0.33	1.0050	0.0449	0.53	MC
FQP2J2		1.002	-0.048	-0.50	0.9300	-0.0301	-0.35	MC
GNFHPX		1.145	0.096	0.99	0.9967	0.0366	0.43	ME
HRBPUR		1.028	-0.021	-0.22	0.9950	0.0349	0.41	MC
J4KJMW		1.047	-0.003	-0.03	0.8932	-0.0669	-0.79	MC
K2EJ2P		1.027	-0.023	-0.24	0.9533	-0.0068	-0.08	MC
K69KVR		0.880	-0.169	-1.76	0.8683	-0.0918	-1.08	MC
KJUT3Q		0.967	-0.083	-0.86	0.8783	-0.0818	-0.96	MR
MT9NVM		1.127	0.077	0.80	1.0583	0.0982	1.15	MM
PRQEVK	*	1.274	0.224	2.32	1.1917	0.2316	2.72	XX
PVRAVM		1.026	-0.024	-0.25	0.8842	-0.0759	-0.89	MC
PXYH7T		0.973	-0.076	-0.79	0.8667	-0.0934	-1.10	MC
R4TC9J		0.972	-0.078	-0.81	0.9167	-0.0434	-0.51	MC
TKXFVM		1.035	-0.014	-0.15	0.9333	-0.0268	-0.31	ME
UEATZG		1.087	0.037	0.39	1.0067	0.0466	0.55	ME
WRHRCJ		1.185	0.136	1.40	1.0683	0.1082	1.27	MR
XGJAJW	X	1.640	0.591	6.12	1.4200	0.4599	5.40	ME
ZCVJ4B		1.048	-0.001	-0.01	0.9417	-0.0184	-0.22	MC

Summary Statistics

	Sample X45-X46	Sample X47-X48
Grand Means	1.0495 minutes	0.96010 minutes
Stnd Dev Btwn Labs	0.0965 minutes	0.08522 minutes

Statistics based on 23 of 24 reporting participants

Samples X45-X46: EPDM Compound & X47-X48: EPDM Compound

Comments on Assigned Data Flags for Test #685

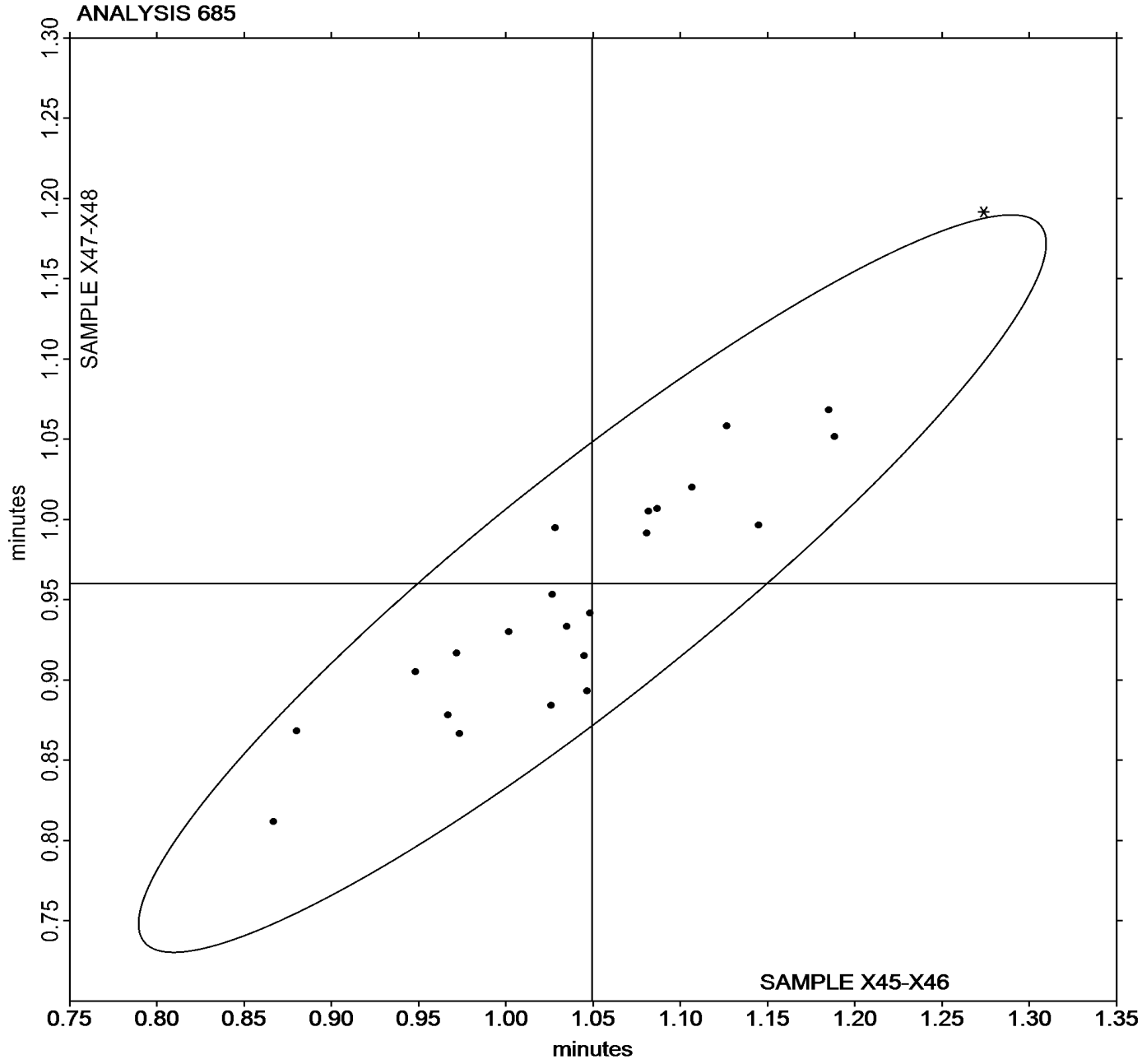
XGJAJW (X) - Data for all samples are high. Possible Systematic Error.

Key to Instrument Codes Reported by Participants

MC	Alpha Technologies [Monsanto] MDR 2000 or 2000E	ME	Alpha Tech. MDR Premiere
MM	MonTech MDR 3000	MR	MonTech D-RPA 3000
XX	Instrument model not specified by lab		

Grand Mean Sample **X45-X46** = 1.0495 minutes

Grand Mean Sample **X47-X48** = 0.96010 minutes



Rubber Interlaboratory Testing Program

Analysis 686

MDR Vulcanization-Cure Time 50% (minutes)

WebCode	Data Flag	Sample X45-X46 Lab Mean	Sample X45-X46 Diff from Grand Mean	Sample X45-X46 CPV	Sample X47-X48 Lab Mean	Sample X47-X48 Diff from Grand Mean	Sample X47-X48 CPV	Instr Code
7ATPV9		1.800	0.015	0.11	1.660	0.036	0.38	MC
ACR4UA		1.567	-0.218	-1.62	1.448	-0.175	-1.83	MC
C47ME6		1.688	-0.096	-0.72	1.555	-0.069	-0.72	MC
D7NDVY		1.832	0.047	0.35	1.598	-0.025	-0.26	ME
DFXVDX		1.980	0.195	1.45	1.733	0.110	1.15	MR
DKBGL6		1.850	0.065	0.49	1.664	0.040	0.42	MC
EZWQDY		1.807	0.022	0.16	1.675	0.051	0.54	MC
FQP2J2		1.718	-0.066	-0.49	1.593	-0.030	-0.32	MC
GNFHPX		1.957	0.172	1.28	1.688	0.065	0.68	ME
HRBPUR		1.717	-0.068	-0.51	1.682	0.058	0.61	MC
J4KJMW		1.897	0.112	0.83	1.652	0.028	0.29	MC
K2EJ2P		1.753	-0.031	-0.23	1.620	-0.004	-0.04	MC
K69KVR	*	1.393	-0.391	-2.91	1.373	-0.250	-2.62	MC
KJUT3Q		1.730	-0.055	-0.41	1.577	-0.047	-0.49	MR
MT9NVM		1.798	0.014	0.10	1.672	0.048	0.50	MM
PRQEVK		1.887	0.102	0.76	1.777	0.153	1.60	XX
PVRAVM		1.953	0.169	1.26	1.698	0.075	0.78	MC
PXYH7T		1.672	-0.113	-0.84	1.473	-0.150	-1.57	MC
R4TC9J		1.723	-0.061	-0.46	1.608	-0.015	-0.16	MC
TKXFVM		1.840	0.055	0.41	1.620	-0.004	-0.04	ME
UEATZG		1.772	-0.013	-0.10	1.627	0.003	0.03	ME
WRHRCJ		1.952	0.167	1.24	1.758	0.135	1.41	MR
XGJAJW	X	3.200	1.415	10.53	2.793	1.170	12.23	ME
ZCVJ4B		1.760	-0.025	-0.18	1.590	-0.034	-0.35	MC

Summary Statistics

	Sample X45-X46	Sample X47-X48
Grand Means	1.7846 minutes	1.6236 minutes
Stnd Dev Btwn Labs	0.1345 minutes	0.0956 minutes

Statistics based on 23 of 24 reporting participants

Samples X45-X46: EPDM Compound & X47-X48: EPDM Compound

Comments on Assigned Data Flags for Test #686

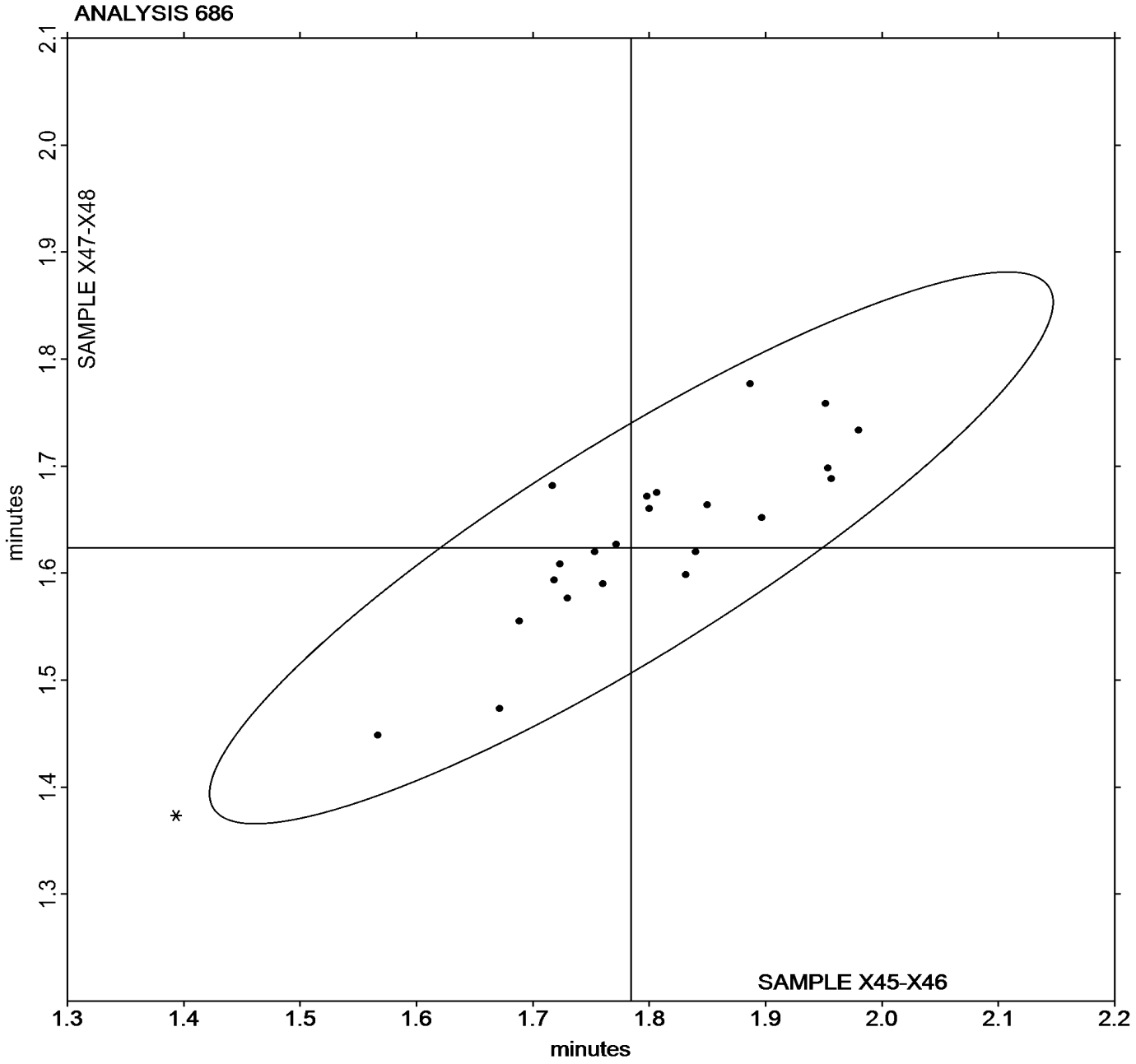
XGJAJW (X) - Data for all Samples are high.

Key to Instrument Codes Reported by Participants

MC	Alpha Technologies [Monsanto] MDR 2000 or 2000E	ME	Alpha Tech. MDR Premiere
MM	MonTech MDR 3000	MR	MonTech D-RPA 3000
XX	Instrument model not specified by lab		

Grand Mean Sample **X45-X46** = 1.7846 minutes

Grand Mean Sample **X47-X48** = 1.6236 minutes



Rubber Interlaboratory Testing Program

Analysis 687

MDR Vulcanization-Cure Time 90% (minutes)

WebCode	Data Flag	Sample X45-X46 Lab Mean	Sample X45-X46 Diff from Grand Mean	Sample X45-X46 CPV	Sample X47-X48 Lab Mean	Sample X47-X48 Diff from Grand Mean	Sample X47-X48 CPV	Instr Code
7ATPV9		3.762	-0.050	-0.17	3.537	0.000	0.00	MC
ACR4UA		3.408	-0.403	-1.40	3.157	-0.380	-2.01	MC
C47ME6		3.485	-0.326	-1.13	3.270	-0.266	-1.41	MC
D7NDVY		4.073	0.262	0.91	3.653	0.117	0.62	ME
DFXVDX		4.255	0.444	1.54	3.775	0.239	1.26	MR
DKBGL6		3.895	0.083	0.29	3.578	0.042	0.22	MC
EZWQDY		3.690	-0.121	-0.42	3.563	0.027	0.14	MC
FQP2J2		3.587	-0.225	-0.78	3.418	-0.118	-0.62	MC
GNFHPX		3.973	0.162	0.56	3.515	-0.021	-0.11	ME
HRBPUR		3.583	-0.228	-0.79	3.548	0.012	0.06	MC
J4KJMW		4.133	0.322	1.12	3.716	0.179	0.95	MC
K2EJ2P		3.665	-0.146	-0.51	3.475	-0.061	-0.32	MC
K69KVR		3.203	-0.608	-2.11	3.197	-0.340	-1.80	XX
KJUT3Q		3.568	-0.243	-0.84	3.365	-0.171	-0.91	MR
MT9NVM		4.172	0.360	1.25	3.945	0.409	2.16	MM
PRQEVK		3.872	0.060	0.21	3.697	0.160	0.85	XX
PVRAVM		4.189	0.378	1.31	3.734	0.197	1.05	MC
PXYH7T		3.783	-0.028	-0.10	3.462	-0.075	-0.40	MC
R4TC9J		3.818	0.007	0.02	3.630	0.094	0.50	MC
TKXFVM		3.870	0.059	0.20	3.515	-0.021	-0.11	ME
UEATZG		3.652	-0.160	-0.55	3.415	-0.121	-0.64	ME
WRHRCJ		4.333	0.522	1.81	3.718	0.182	0.96	MR
XGJAJW	X	7.290	3.479	12.05	6.732	3.195	16.92	ME
ZCVJ4B		3.690	-0.121	-0.42	3.453	-0.083	-0.44	MC

Summary Statistics

	Sample X45-X46	Sample X47-X48
Grand Means	3.8113 minutes	3.5363 minutes
Stnd Dev Btwn Labs	0.2887 minutes	0.1889 minutes

Statistics based on 23 of 24 reporting participants

Samples X45-X46: EPDM Compound & X47-X48: EPDM Compound

Comments on Assigned Data Flags for Test #687

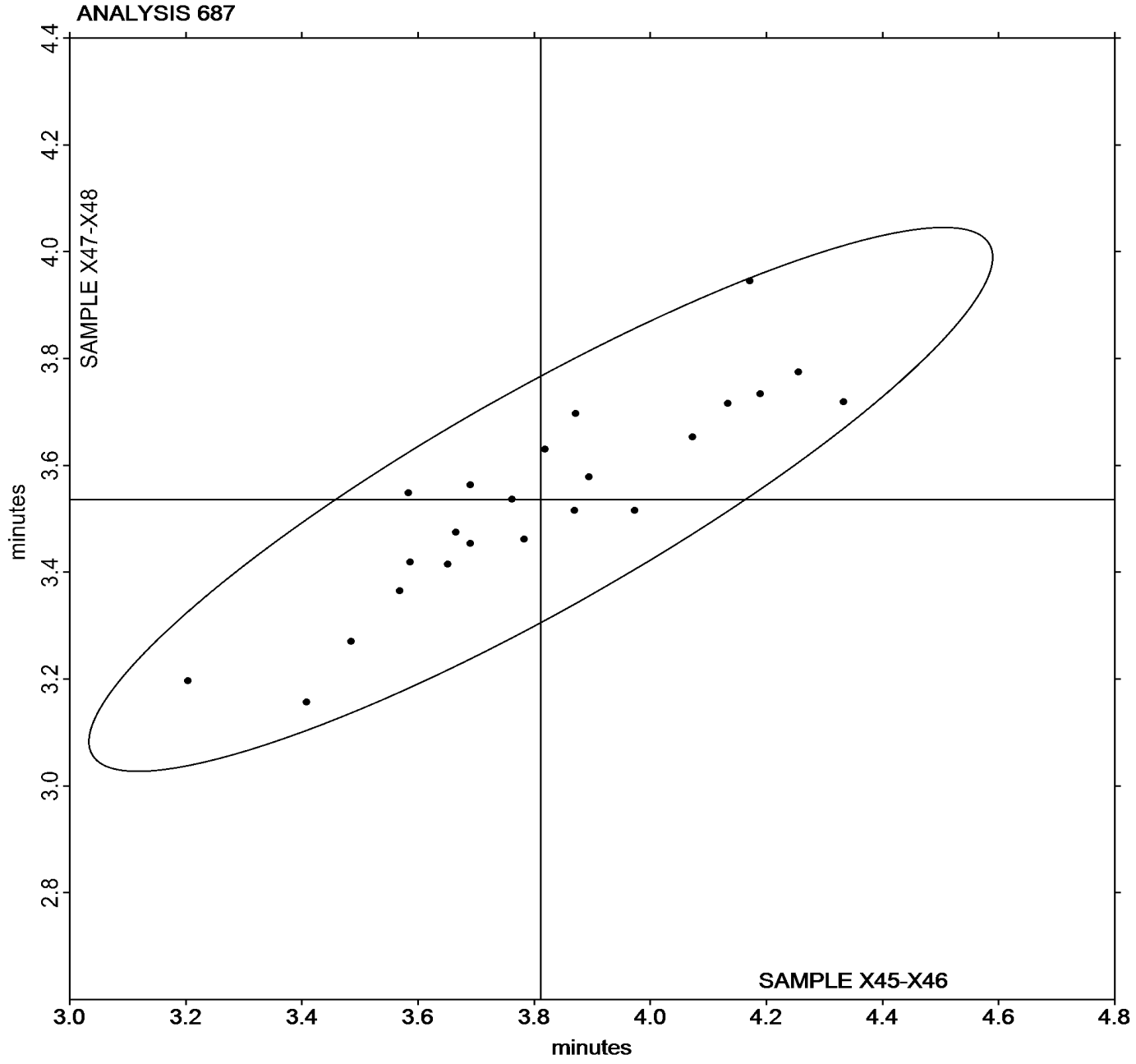
XGJAJW (X) - Data for all Samples are high.

Key to Instrument Codes Reported by Participants

MC	Alpha Technologies [Monsanto] MDR 2000 or 2000E	ME	Alpha Tech. MDR Premiere
MM	MonTech MDR 3000	MR	MonTech D-RPA 3000
XX	Instrument model not specified by lab		

Grand Mean Sample **X45-X46** = 3.8113 minutes

Grand Mean Sample **X47-X48** = 3.5363 minutes



WebCode	Data Flag	Sample X45-X46 Lab Mean	Diff from Grand Mean	CPV	Sample X47-X48 Lab Mean	Diff from Grand Mean	CPV	Instr Code
7ATPV9		3.253	-0.179	-0.56	3.420	-0.132	-0.38	MC
ACR4UA		3.737	0.304	0.94	4.013	0.461	1.34	MC
C47ME6		3.363	-0.069	-0.22	3.335	-0.217	-0.63	MC
D7NDVY		3.343	-0.090	-0.28	3.571	0.019	0.06	ME
DFXVDX		2.835	-0.598	-1.85	3.012	-0.540	-1.57	MR
DKBGL6		3.378	-0.054	-0.17	3.403	-0.149	-0.43	MC
EZWQDY		3.592	0.159	0.49	3.597	0.045	0.13	MC
FQP2J2		3.754	0.321	1.00	3.819	0.267	0.77	MC
GNFHPX		3.259	-0.174	-0.54	3.455	-0.097	-0.28	ME
HRBPUR		3.300	-0.133	-0.41	3.147	-0.405	-1.18	MC
J4KJMW		3.208	-0.224	-0.70	3.275	-0.277	-0.80	MC
K2EJ2P		3.392	-0.041	-0.13	3.445	-0.107	-0.31	MC
K69KVR	*	4.482	1.049	3.25	4.522	0.970	2.81	MC
KJUT3Q	*	3.595	0.162	0.50	4.067	0.515	1.49	MR
MT9NVM		3.228	-0.204	-0.63	3.312	-0.240	-0.70	MM
PRQEVK		3.242	-0.191	-0.59	3.310	-0.242	-0.70	MM
PVRAVM		3.132	-0.301	-0.93	3.264	-0.288	-0.83	MC
PXYH7T		3.857	0.424	1.31	4.093	0.541	1.57	MC
R4TC9J		3.267	-0.165	-0.51	3.406	-0.146	-0.42	MC
TKXFVM		3.402	-0.031	-0.10	3.610	0.058	0.17	ME
UEATZG		3.490	0.057	0.18	3.647	0.095	0.27	ME
WRHRCJ		3.120	-0.313	-0.97	3.291	-0.261	-0.76	MR
XGJAJW		3.476	0.043	0.13	3.657	0.105	0.30	ME
ZCVJ4B		3.682	0.249	0.77	3.580	0.028	0.08	MC

Summary Statistics

	Sample X45-X46	Sample X47-X48
Grand Means	3.4327 lbf.in	3.5521 lbf.in
Stnd Dev Btwn Labs	0.3227 lbf.in	0.3450 lbf.in

Statistics based on 24 of 24 reporting participants

Summary Statistics in SI Units

	Sample X45-X46	Sample X47-X48
Grand Means	3.8785 dN.m	4.0133 dN.m
Stnd Dev Btwn Labs	0.3646 dN.m	0.3898 dN.m

Statistics based on 24 of 24 reporting participants

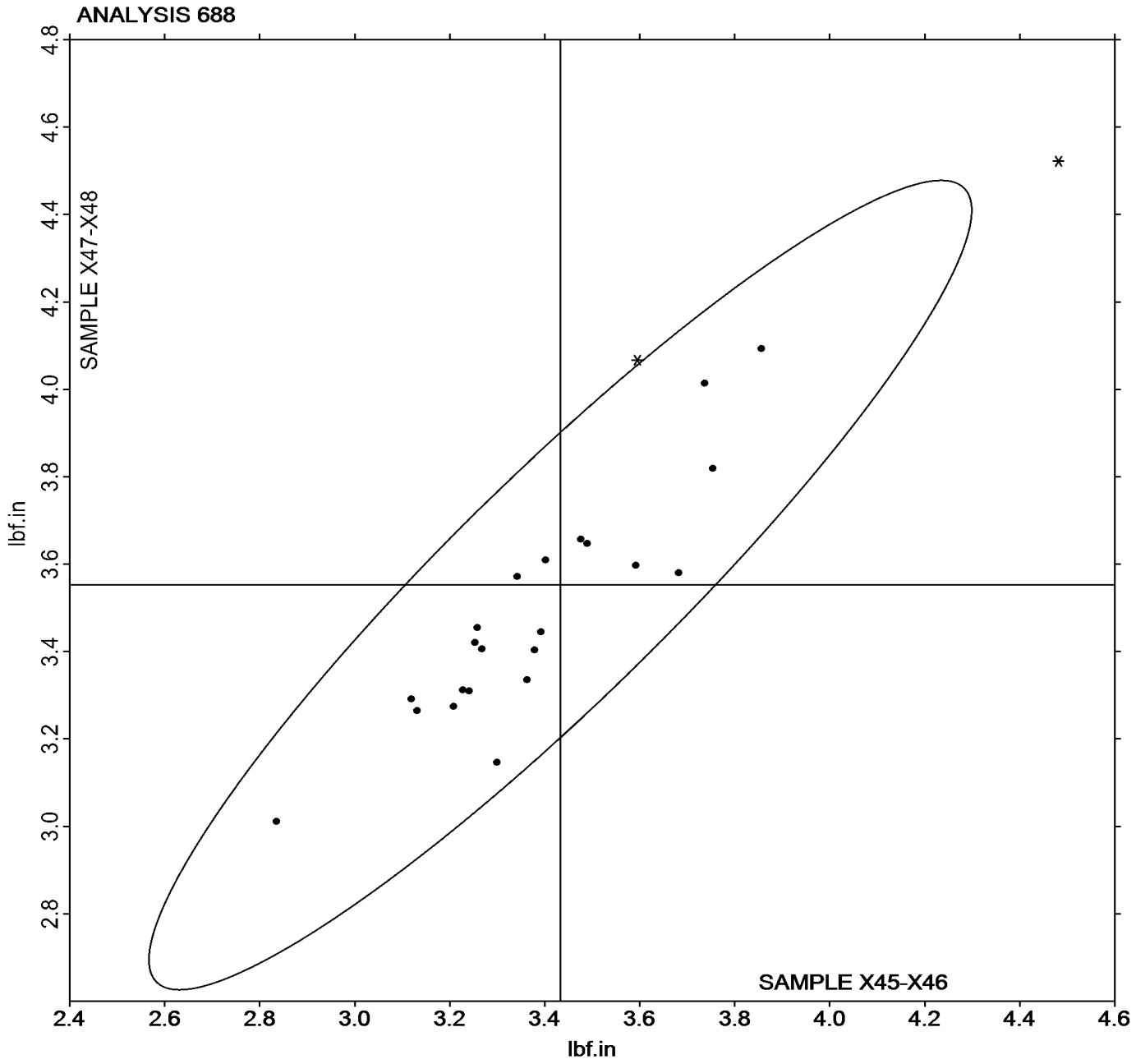
Samples X45-X46: EPDM Compound & X47-X48: EPDM Compound

Key to Instrument Codes Reported by Participants

MC	Alpha Technologies [Monsanto] MDR 2000 or 2000E	ME	Alpha Tech. MDR Premiere
MM	MonTech MDR 3000	MR	MonTech D-RPA 3000

Grand Mean Sample **X45-X46** = 3.4327 lbf.in

Grand Mean Sample **X47-X48** = 3.5521 lbf.in



WebCode	Data Flag	Sample X45-X46 Lab Mean	Diff from Grand Mean	CPV	Sample X47-X48 Lab Mean	Diff from Grand Mean	CPV	Instr Code
7ATPV9		10.45	-0.36	-0.70	10.61	-0.22	-0.44	MC
ACR4UA		10.66	-0.15	-0.29	10.65	-0.18	-0.36	MC
C47ME6		11.86	1.05	2.02	11.76	0.93	1.86	MC
D7NDVY		10.63	-0.18	-0.35	10.76	-0.07	-0.14	ME
DFXVDX		10.27	-0.54	-1.04	10.34	-0.49	-0.97	MR
DKBGL6		11.07	0.26	0.50	10.90	0.07	0.15	MC
EZWQDY		11.37	0.56	1.07	11.25	0.42	0.84	MC
FQP2J2		11.19	0.37	0.72	11.24	0.41	0.81	MC
GNFHPX		10.51	-0.30	-0.59	10.55	-0.28	-0.56	ME
HRBPUR		10.78	-0.03	-0.06	10.57	-0.26	-0.52	MC
J4KJMW		10.81	0.00	0.00	10.76	-0.07	-0.14	MC
K2EJ2P		10.83	0.02	0.03	10.82	-0.01	-0.01	MC
K69KVR		11.16	0.34	0.66	11.16	0.33	0.66	MC
KJUT3Q		11.47	0.65	1.26	11.64	0.81	1.62	MR
MT9NVM		9.81	-1.00	-1.94	9.76	-1.07	-2.13	MM
PRQEVK		9.77	-1.04	-2.01	9.82	-1.01	-2.01	MM
PVRAVM		11.29	0.48	0.92	11.34	0.51	1.02	MC
PXYH7T		11.14	0.32	0.62	11.25	0.42	0.84	MC
R4TC9J		10.61	-0.21	-0.40	10.57	-0.26	-0.51	MC
TKXFVM		11.04	0.23	0.43	11.14	0.31	0.63	ME
UEATZG		10.76	-0.06	-0.11	10.85	0.02	0.03	ME
WRHRCJ		10.08	-0.73	-1.41	10.29	-0.53	-1.06	MR
ZCVJ4B		11.17	0.35	0.68	11.03	0.20	0.40	MC

Summary Statistics

	Sample X45-X46	Sample X47-X48
Grand Means	10.813 lbf.in	10.829 lbf.in
Stnd Dev Btwn Labs	0.519 lbf.in	0.501 lbf.in

Statistics based on 23 of 23 reporting participants

Summary Statistics in SI Units

	Sample X45-X46	Sample X47-X48
Grand Means	12.217 dN.m	12.235 dN.m
Stnd Dev Btwn Labs	0.586 dN.m	0.567 dN.m

Statistics based on 23 of 23 reporting participants

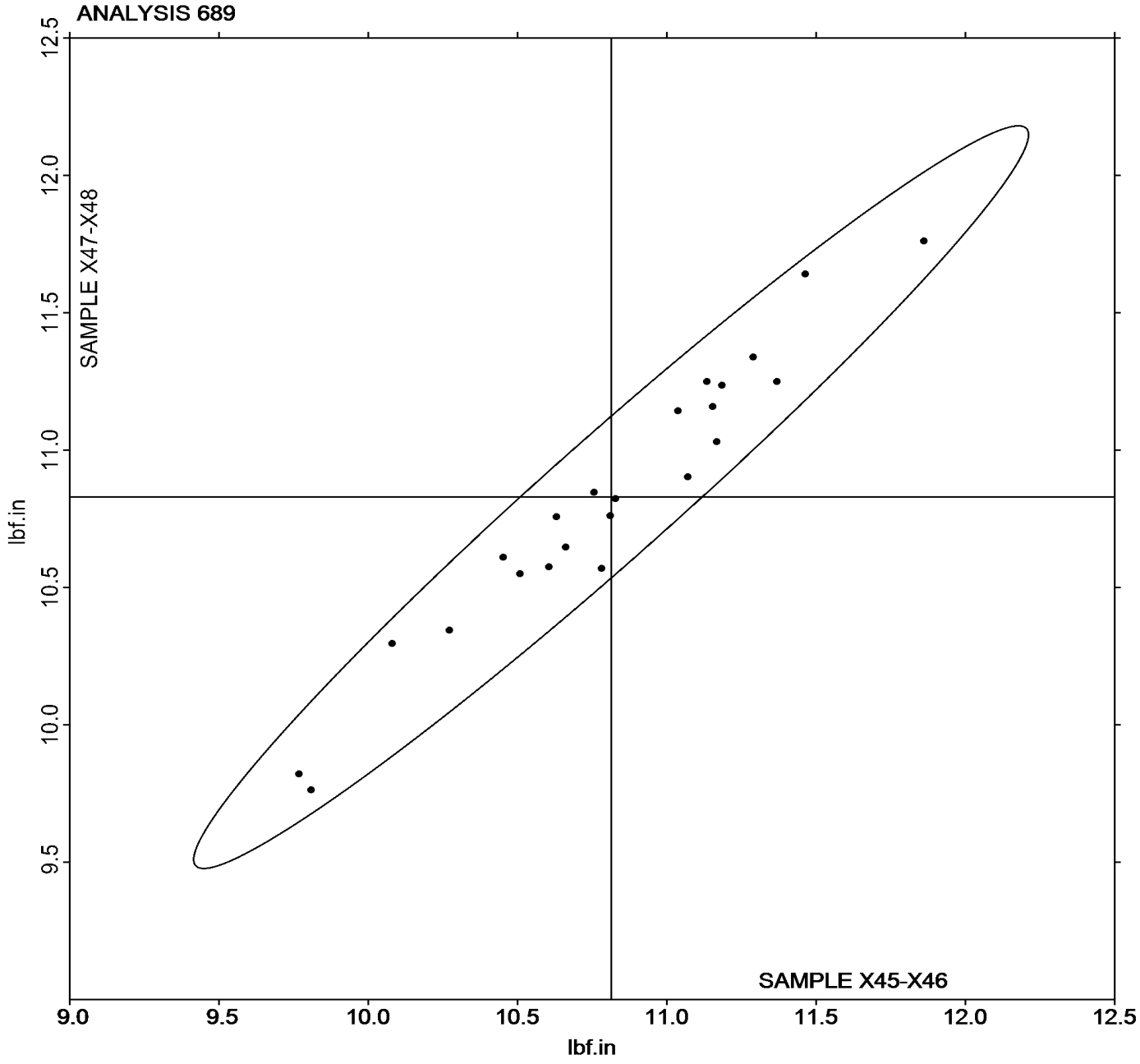
Samples X45-X46: EPDM Compound & X47-X48: EPDM Compound

Key to Instrument Codes Reported by Participants

MC	Alpha Technologies [Monsanto] MDR 2000 or 2000E	ME	Alpha Tech. MDR Premiere
MM	MonTech MDR 3000	MR	MonTech D-RPA 3000

Grand Mean Sample **X45-X46** = 10.813 lbf.in

Grand Mean Sample **X47-X48** = 10.829 lbf.in



WebCode	Data Flag	Sample F41-F42 Lab Mean	Diff from Grand Mean	CPV	Sample F43-F44 Lab Mean	Diff from Grand Mean	CPV	Instr Code
GNFHPX		740.7	-63.1	-0.40	739.2	-87.2	-0.61	XX
J4KJMW		693.0	-110.8	-0.71	738.8	-87.6	-0.62	RP
J8MMCX		789.9	-13.9	-0.09	826.9	0.5	0.00	PR
PVRAVM		718.2	-85.6	-0.55	754.7	-71.7	-0.50	RP
XGJAJW		1,077.1	273.3	1.74	1,072.4	246.1	1.73	XX

Summary Statistics

	Sample F41-F42	Sample F43-F44
Grand Means	803.80 kPa	826.39 kPa
Stnd Dev Btwn Labs	156.91 kPa	142.27 kPa

Statistics based on 5 of 5 reporting participants

Samples F41-F42: EPDM Compound & F43-F44: EPDM Compound

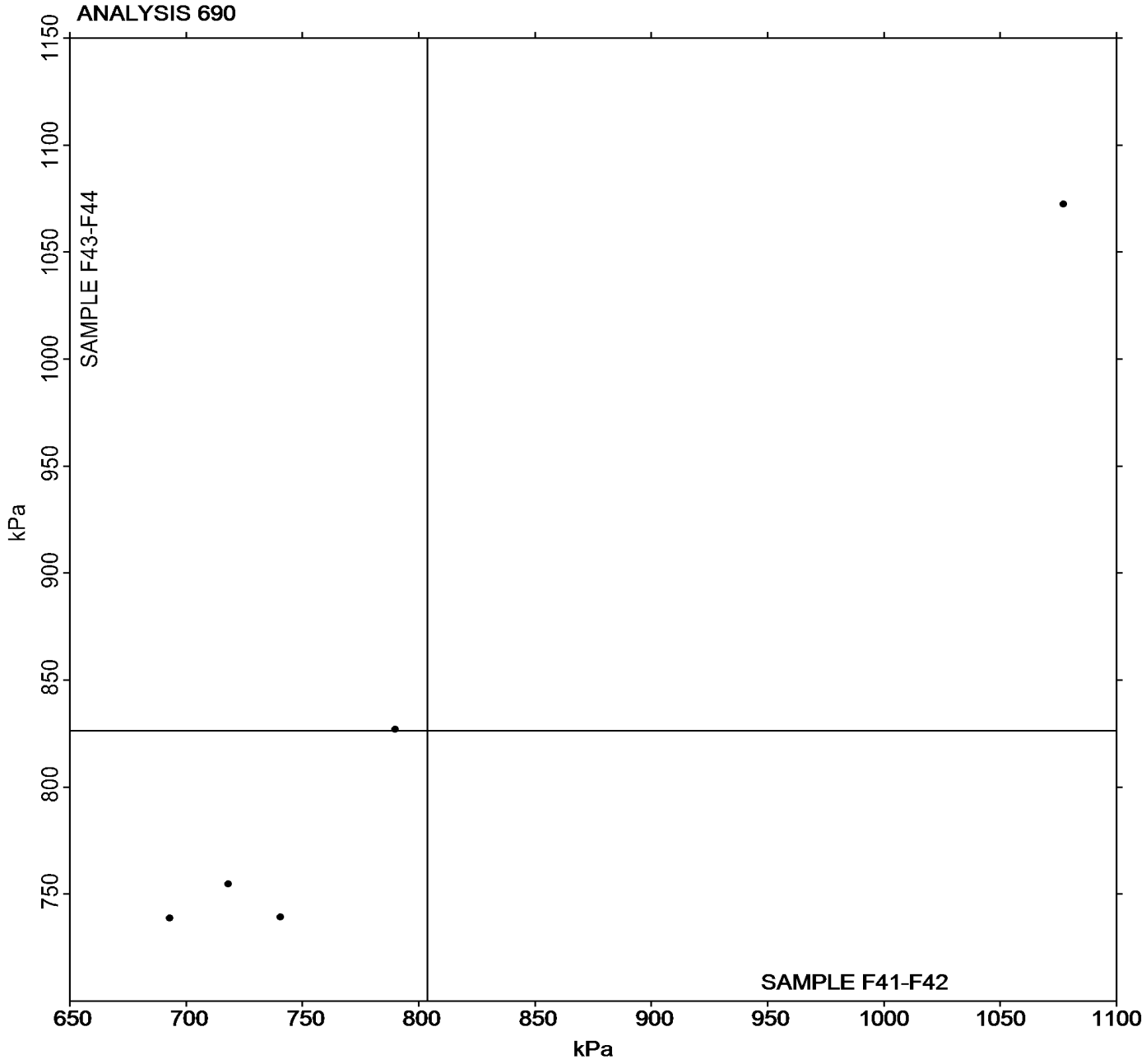
Key to Instrument Codes Reported by Participants

PR	PRPA 2000	RP	RPA 2000
XX	Instrument model not specified by lab		

RPA Rheological Properties: Part A - G' at 20Hz (kPa)

Grand Mean Sample **F41-F42** = 803.80 kPa

Grand Mean Sample **F43-F44** = 826.39 kPa



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

RPA Rheological Properties: Part A - G" at 20Hz (kPa)

WebCode	Data Flag	Sample F41-F42 Lab Mean	Sample F41-F42 Diff from Grand Mean	Sample F41-F42 CPV	Sample F43-F44 Lab Mean	Sample F43-F44 Diff from Grand Mean	Sample F43-F44 CPV	Instr Code
GNFHPX		264.9	15.7	0.34	259.9	16.0	0.38	XX
J4KJMW		212.7	-36.6	-0.78	208.6	-35.4	-0.84	RP
J8MMCX		229.2	-20.1	-0.43	227.4	-16.6	-0.40	PR
PVRAVM		215.4	-33.9	-0.72	214.0	-30.0	-0.71	RP
XGJAJW		324.1	74.8	1.60	309.9	66.0	1.57	XX

Summary Statistics

	Sample F41-F42	Sample F43-F44
Grand Means	249.23 kPa	243.95 kPa
Stnd Dev Btwn Labs	46.72 kPa	41.93 kPa

Statistics based on 5 of 5 reporting participants

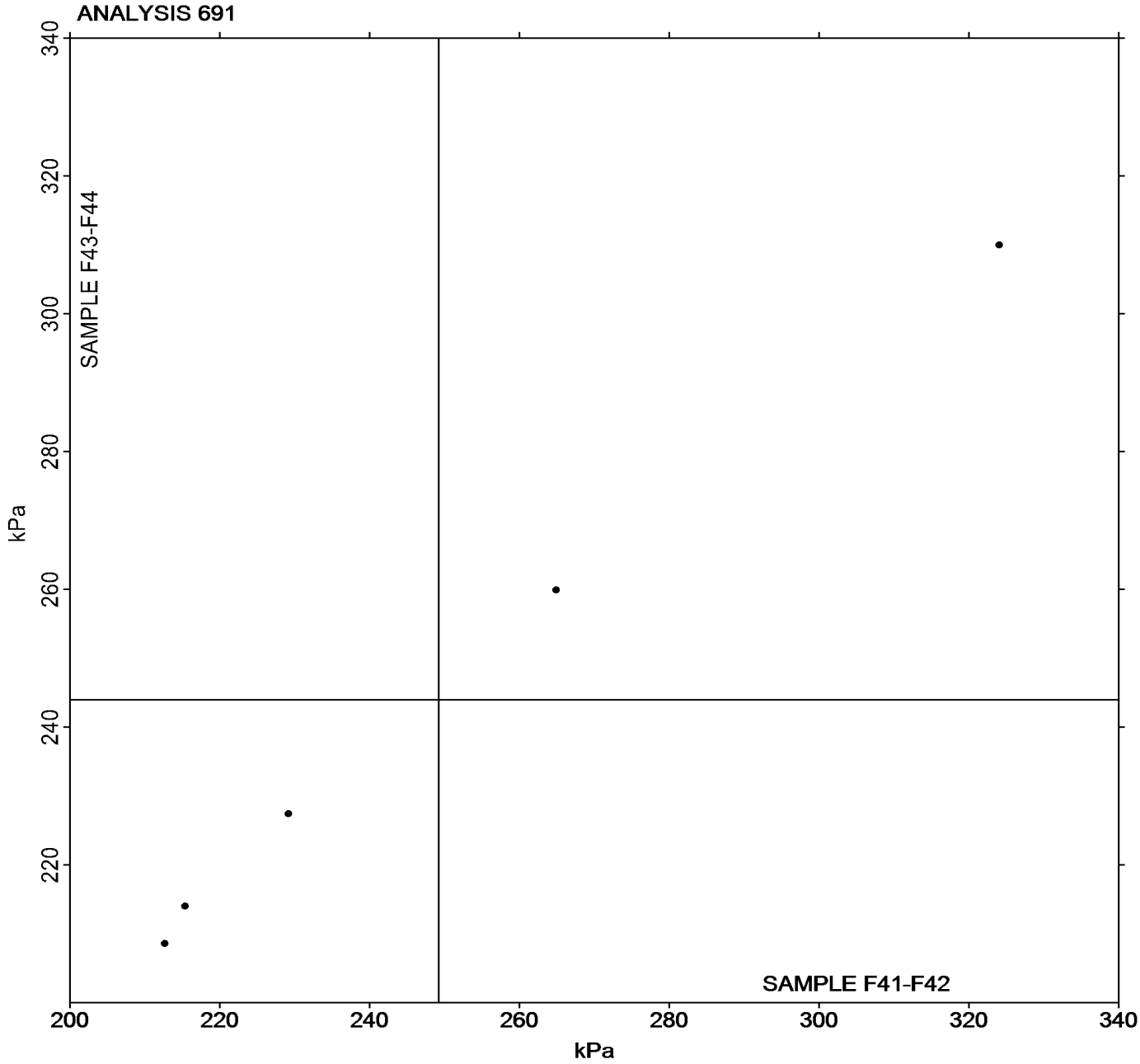
Samples F41-F42: EPDM Compound & F43-F44: EPDM Compound

Key to Instrument Codes Reported by Participants

PR	PRPA 2000	RP	RPA 2000
XX	Instrument model not specified by lab		

Grand Mean Sample **F41-F42** = 249.23 kPa

Grand Mean Sample **F43-F44** = 243.95 kPa



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

WebCode	Data Flag	Sample F41-F42 Lab Mean	Diff from Grand Mean	CPV	Sample F43-F44 Lab Mean	Diff from Grand Mean	CPV	Instr Code
GNFHPX		129.1	-20.7	-0.77	132.1	-34.0	-0.96	XX
J4KJMW		135.5	-14.3	-0.53	155.9	-10.2	-0.29	RP
J8MMCX		189.7	39.9	1.49	215.2	49.2	1.38	PR
PVRAVM		165.1	15.3	0.57	189.7	23.7	0.67	RP
XGJAJW		129.5	-20.2	-0.76	137.4	-28.7	-0.81	XX

Summary Statistics

	F41-F42	F43-F44
Grand Means	149.77 kPa	166.06 kPa
Stnd Dev Btwn Labs	26.78 kPa	35.57 kPa

Statistics based on 5 of 5 reporting participants

Samples F41-F42: EPDM Compound & F43-F44: EPDM Compound

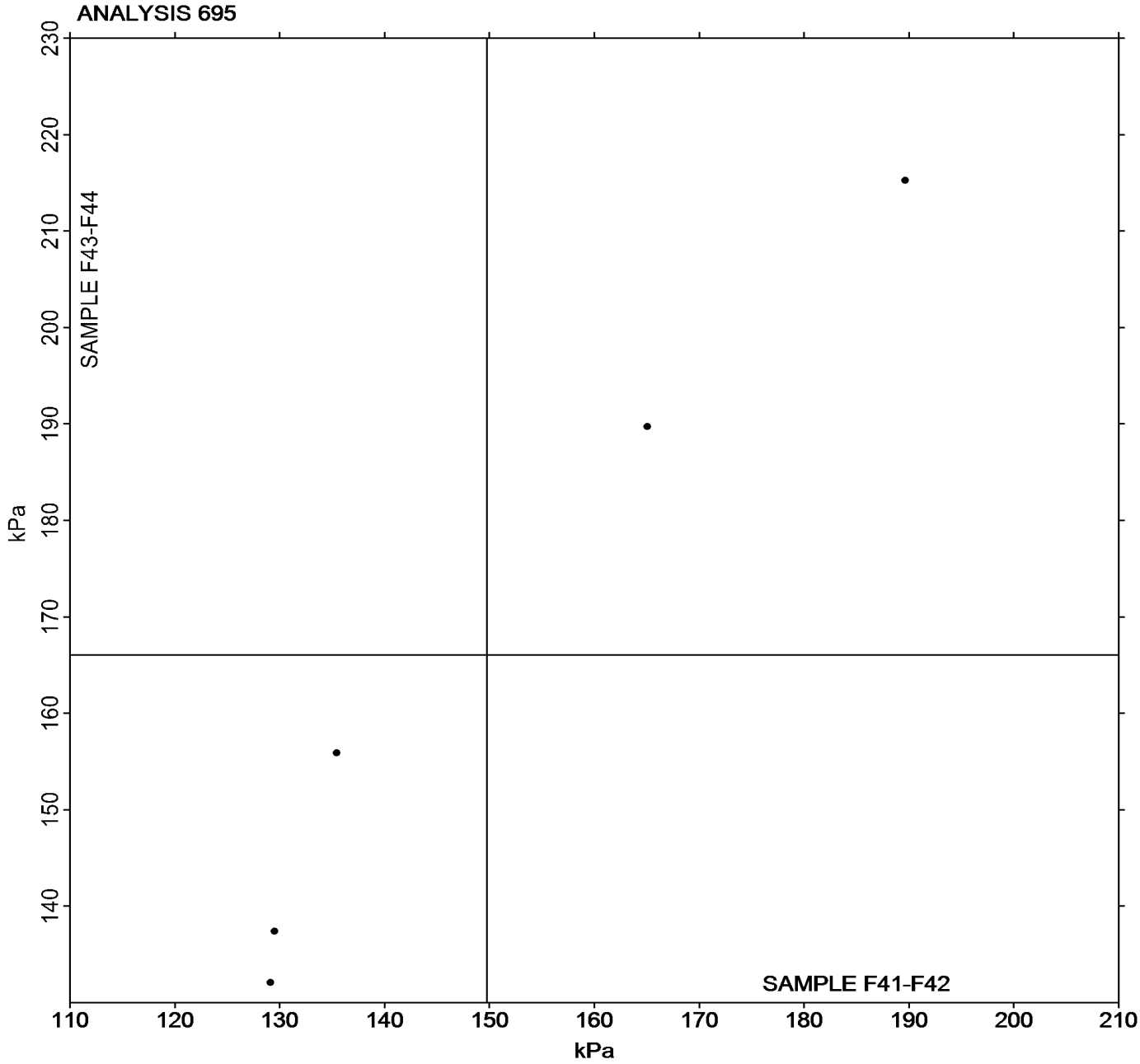
Key to Instrument Codes Reported by Participants

PR	PRPA 2000	RP	RPA 2000
XX	Instrument model not specified by lab		

RPA Rheological Properties: Part B - G′ at 1.0Hz (kPa)

Grand Mean Sample **F41-F42** = 149.77 kPa

Grand Mean Sample **F43-F44** = 166.06 kPa



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

RPA Rheological Properties: Part B - G" at 1.0Hz (kPa)

WebCode	Data Flag	Sample F41-F42 Lab Mean	Sample F41-F42 Diff from Grand Mean	Sample F41-F42 CPV	Sample F43-F44 Lab Mean	Sample F43-F44 Diff from Grand Mean	Sample F43-F44 CPV	Instr Code
GNFHPX		106.8	-2.0	-0.24	105.9	-6.4	-0.60	XX
J4KJMW		98.8	-10.0	-1.22	103.4	-8.9	-0.83	RP
J8MMCX		121.2	12.4	1.51	129.0	16.7	1.57	PR
PVRAVM		111.1	2.2	0.27	116.8	4.6	0.43	RP
XGJAJW		106.2	-2.6	-0.31	106.3	-6.0	-0.56	XX

Summary Statistics

	F41-F42	F43-F44
Grand Means	108.83 kPa	112.28 kPa
Stnd Dev Btwn Labs	8.21 kPa	10.66 kPa

Statistics based on 5 of 5 reporting participants

Samples F41-F42: EPDM Compound & F43-F44: EPDM Compound

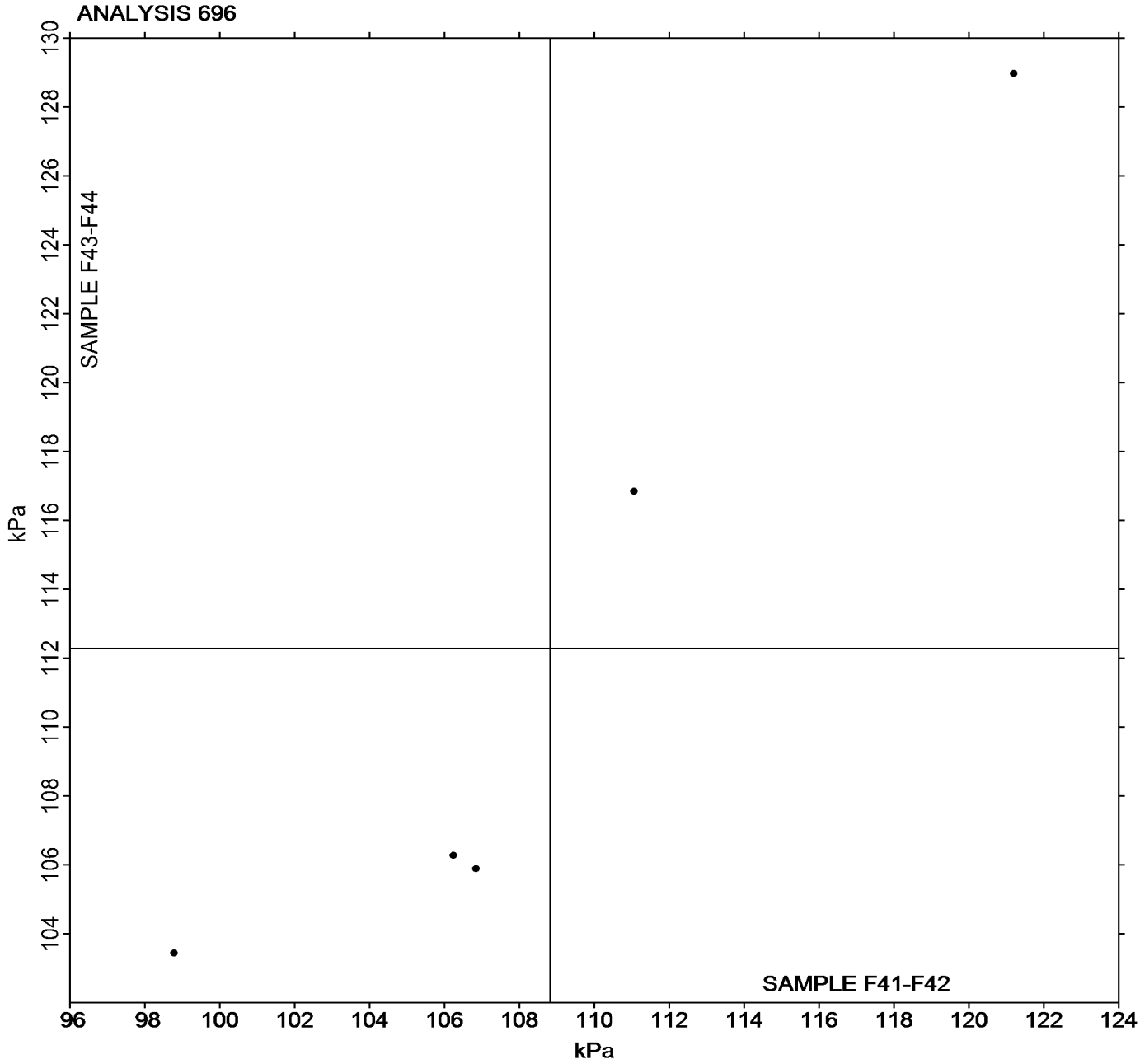
Key to Instrument Codes Reported by Participants

PR	PRPA 2000	RP	RPA 2000
XX	Instrument model not specified by lab		

RPA Rheological Properties: Part B - G" at 1.0Hz (kPa)

Grand Mean Sample **F41-F42** = 108.83 kPa

Grand Mean Sample **F43-F44** = 112.28 kPa



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

-End of Report-